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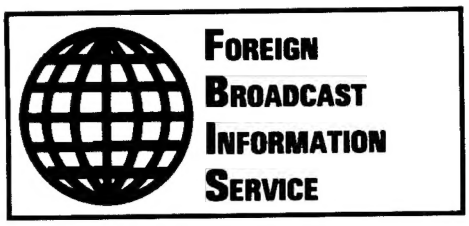


# JPRS Report



# Science & Technology

## Central Eurasia: Science & Technology Policy

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*JPRS-UST-92-009* *14 September 1992*

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## Higher Engineering Council To Support, Promote Russian Technology

*927A0259A Moscow DELOVOY MIR in Russian*
*21 Jul 92 p 1*

[Article by Doctor of Technical Sciences Prof. V. Valentinov, chief scientific secretary of the Higher Engineering Council: "We Will Help the West With Russian Technologies"]

[Text] The fine poet Velemir Khlebnikov divided people into two categories: procurers and inventors. In reality this is most likely not entirely the case, and a large part of mankind does not fall into either the former or the latter group. However, it is unquestionable that the prosperity of every country depends decisively on how successful the activity of these categories is and how they get on with each other.

Until recently procurers did not officially exist in our country, the state assumed their functions. And inasmuch as it did not have competitors, but then had a large number of sources for deriving income, developments of scientists and engineers and valuable ideas of inventors quite often remained unmaterialized. Today one must not count on state support, moreover, traditional economic ties have been broken, the political instability is frightening foreign investors, enterprises have grown poor, inflation is not halting.... Under these conditions domestic science may find itself "on the gloomy brink of the abyss." Only (pardon the compromised term) resolute perestroyka is capable of saving it. What is meant?

At one time Academician Lev Andreyevich Artsimovich defined a scientist as a person who satisfies his curiosity at the expense of the state. Henceforth he will most often of all have to do this at his own expense. But, so that it could appear for him, it is necessary to derive practical benefit from satisfied curiosity. Comparatively favorable conditions have appeared for this precisely now.

First, as a result of many years of work "for the shelf" a significant number of works, which not only are not inferior to the world level, but in many cases also surpass it, accumulated in the country. We can offer on the international market a scarce commodity (a science-intensive product), the value of which, according to the estimates of foreign experts, comes to many billions of dollars. Second, the reduction of military confrontation is freeing production capacities and is creating the material base for bringing the available works up to the required standards. World integration, which facilitates the cooperation of engineers of many countries, is also contributing to this. And, third, a new powerful factor has appeared in our country—private capital, which in contrast to state capital is interested in developments that are capable of recovering the invested capital and yielding a profit.

Thus, the situation is far from hopeless, although the listed factors are only a prerequisite for the technological revival of the country. A mechanism that unites the three interested parties—the scientific and technical corps, entrepreneurs, and financiers—thus far is lacking. In addition to purely structural, organizational obstacles exclusively psychological, but very significant difficulties also exist. Scientists often consider entrepreneurs to be speculators and self-seekers, while they in turn do not see in scientific research a practical benefit and believe that the gentlemen "scientists" have made themselves comfortable in their "ecological niches." As for bank bigwigs, the problems of the existence of science and the development of technology do not worry them at all, while cunning speculators are taking loans at an interest rate of 80 percent per annum.

However, the reasonable strata of scientists, entrepreneurs, and financiers understand perfectly well that the existing situation for many reasons is unstable and is fraught with social, economic, and financial upheavals. It is necessary to obtain investments at a reasonable interest rate, to modernize equipment, to assimilate new science-intensive technologies, and to hold on the world market a place, which our country deserves and guarantees the entire population a high standard of living. Moreover, it is necessary to hurry with this matter, since the scientific product is a perishable commodity. Ideas hover in the air, sooner or latter other people develop them. Our technologies are national wealth, and it is necessary to manage it intelligently.

The members of the six Russian academies (the academy of sciences, the engineering academy, the academies of natural, technological, and agricultural sciences, the St. Petersburg Engineering Academy), who were worried by the formed situation, established a new public structure—the Higher Engineering Council. Its task is to select from the large number of developments the most valuable, large-scale, profitable ones, not to let them be lost among other proposals, not to allow them to go abroad for a song, to guarantee a worthy reward for their authors, to estimate the need for these technologies on the world market, and, finally, by means of assets of the innovation engineering fund to ensure the bringing of works up to the necessary level.

Thus, the council is assuming the functions of a highly competent, independent, objective expert, whose recommendations are a guarantee that the proposed ideas can be implemented technically. The Council of Entrepreneurs, which is linked functionally with the Higher Engineering Council, will engaged in the commercial study of the selected proposals, while Russian banks, representatives of which will also belong to the system, will provide if necessary financial support. State, private, and foreign capital is also being enlisted in the innovation fund. The carefully thought out structure of the Higher Engineering Council and its secondary subdivisions should promote reasonable harmony in the relations of inventors and procurers.

Our first steps convince us that there is an enormous number of ideas, which await implementation, and idle money, which it is necessary to put into circulation, and energetic, enterprising, competent businessmen, it is necessary merely not to lose hope and to work.

## Status of RAS Institutes, National Science Centers Debated

*927A0266A Moscow RADIKAL in Russian*
*No 27, Jul 92 p 10*

[Interview with Academician Igor Mikhaylovich Makarov, chief scientific secretary of the Russian Academy of Sciences, by RADIKAL commentator Marina Lapina, under the rubric "Around Science"; date and place not given: "Are the Institute of the RAS Never To Be National Science Centers?"—first two paragraphs are RADIKAL introduction]

[Text] The question of giving some scientific institutions the status of national science centers arose not that long ago, but has already received a rather broad response. In the conception of many people the new status signifies a sinecure for its holders. Most likely, there will be nothing of the sort. It is even for certain that there will be nothing. Nevertheless, the numerous applications, which are being received by the Ministry of Science, the Higher School, and Technical Policy from various departments and individual scientific collectives, testify to the desire to acquire the new quality.

So just which institutes will all the same acquire it? What in general should the national science center be like? The most different opinions are being expressed in this regard. Academician Igor Makarov, chief scientific secretary of the RAS [Russian Academy of Sciences], was the first person interviewed by our commentator, Marina Lapina.

[Lapina] Igor Mikhaylovich, a working group, which was commissioned to establish in Russia a network of national science centers, was set up by order of the government. What do you think of such an idea? Do you consider it advisable to give some academic institutes such a status?

[Makarov] But what does "national science center" mean? Uzbek, perhaps, Tatar, or Russian? Perhaps, federal?

[Lapina] It is a matter, after all, not of the name. You understand what it is a question of.

[Makarov] Yes, but the Russian Academy of Sciences itself is such a center, owing to which our basic science is at the world level.

[Lapina] Should I understand you as meaning that you are opposed to giving individual, best institutes the status of a national or, say, federal science center?

[Makarov] No, I am in principle not opposed to this idea, but it is necessary to implement it very cautiously. It should be a question first of all of institutes of the applied, sectorial type, such as the Central Aerohydrodynamics Institute, that is, science centers of a basic and applied orientation in individual directions should be established on the basis of existing ones.

[Lapina] But what all the same about academic institutes?

[Makarov] The most dangerous thing for science is the urge to reorganize. Now many young people, who think that they have seized God by the beard, have appeared in management structures. Understand that the reorganization of the system of management of basic science is now not the primary thing. The Academy of Sciences exists, and it is "shielding" all basic science. It is necessary to think about how to preserve applied science.

[Lapina] But basic science at the same academy under present conditions simply will not survive. It is necessary if only to try to save what is the best. For the giving of a special status to institutes does mean something. It can be a question at least of guaranteed stable financing from the state budget.

[Makarov] I do not want to create the illusion of imaginary well-being. Even during the most horrible periods of our history it was possible to maintain the financing of the entire academy at the proper level. After all, defense science of the highest quality actually originated at academic institutions, 60 percent of which worked for the defense complex. Or take Nobel Prizes. All of them were received by members of the academy. And how many scientists of academic institutes have been awarded Lenin Prizes, no matter how people feel about them today. Of the more than 200 academic journals 70 are translated abroad today, and our foreign colleagues prefer to sign agreements on scientific cooperation with the Russian Academy of Sciences, even in the field of medicine.

It is another matter that the academy of sciences should think about have to live further, should get rid of the accumulated ballast, and, perhaps, should even shut some institutes. It is particularly necessary to direct attention to the activity of institutes of the humanities type, many of which at one time were established simply when the bell rang.

Incidentally, we have already closed one institute, it seems, a Far Eastern institute of economics (probably the Institute of Economic Research—M.L.). And recently a meeting of the presidium, at which the work of the departments for the social sciences was discussed, was held. So that we are already taking some steps.

[Lapina] Let us return all the same to the question of national science centers. As far as I know, the Russian Academy of Sciences, rather its leadership, was given the assignment to submit its views and proposals with respect to the academic institutions, which it would be advisable to give the qualitatively new status.

[Makarov] Yes, there was some memorandum of the chief of the department of science of the staff of the government, it seems, Lomakin...Lomakin-Rumyantsev, a young man, who not long ago took this post, but before this, incidentally, was a scientific associate at the academy.... But I have already said that the Russian Academy of Sciences itself is a center of basic research.

[Lapina] It is possible to regard your explanation as reluctance of the leadership of the academy to single out

individual institutes as national (federal) science centers. It seems that there was even a letter of President Yu. Osipov addressed to Minister of Science B. Saltykov, in which precisely such a position was set forth. Was there such a letter?

[Makarov] Probably.

[Lapina] And it is possible to become familiar with it?

[Makarov] Apparently, it is better to do this at the place, to which it was sent.

## Deputy Science Minister on Need for Law on Science Policy

*927A0255A Moscow POISK in Russian*
*No 27 (165), 27 Jun-3 Jul 92 p 1*

[Article by Deputy Minister of Science A. Tikhonov under the rubric "Point of View": "Without Laws It Is Like Being in Weightlessness"—first five paragraphs are POISK introduction]

[Text] However tired scientists are of hearing reproaches meant for them and of working for next to nothing, they all the same understand: Science is obliged to influence the development of regions. Therefore in the winter of this year the Ministry of Science, the Higher School, and Technical Policy and the Russian Academy of Sciences by a joint decision founded the Interdepartmental Council for Regional Scientific and Technical Policy and Cooperation With the Higher School.

The most noble goals were set for the council with such a drawn out name: to consider the proposals of organs of power and administration on scientific and technical policy in Russia, on the basis of evaluations to provide recommendations on the priority directions of its implementation for the Ministry of Science, the Higher School, and Technical Policy and the RAS [the Russian Academy of Sciences], to prepare proposals on the distribution of financial and material resources for the implementation of these programs.... And so forth.

There is no point in listing all the possibilities of improving our existence, which are being afforded in connection with the birth of the new council. It is clear to everyone that it is needed, and it is a good thing that on 26 June with the first "halloo!" in the form of a discussion of the directions of its work in 1992 it announced to the scientific committee its intention to act.

But these intentions will hardly be realized soon. And not because this council is a small child, a few months old. But because, although it was born into the world of good parents, no more rights were given to it in our state than to them. Therefore, having now set to work, this Interdepartmental Council at best will win itself the reputation of an admonishing and educational organ rather than a system that is capable of affecting the development of events in the country.

**Here is what Deputy Minister of Science A. Tikhonov believes in this regard:**

The council, which is being discussed, first, will be able to implement regional scientific and technical programs only if funds are allocated for them. By whom? Of course, by the regions. But the regions do not have money now. All of it is going in the form of taxes to the federation—for the stabilization of the budget, while if it is returned, it is for the covering of social programs. By no means scientific programs.

A rare exception is the Kuznetsk Coal Field, where after well-known events the procedure of deductions was changed, opportunities were given to form their own funds and to allocate money at once from them for science and ecology.... It would be logical to do this among all regions. But for this it is necessary in addition to change taxation.

The main thing is to pass a package of laws on scientific activity. Yes, a number of documents on intellectual property were recently passed. Although a sort of legal foundation has been laid, it is possible to rely on this foundation only with caution—they have assessed intellectual property such a tax that you would not want to build a business on it.

But there is still no law on science and on federal scientific policy. Just as there is no definition of the status of the subject of scientific activity. Now, in essence, the ministry and the Academy of Sciences are it for the state. But in fact only the scientist himself and the creative collective—the laboratory, the division, the group...—are and always will be it. Now this has been recorded in the draft of the law on science, but the law has not yet been passed.

There is also no law on property rights, but if we implement regional policy, we are establishing some sort of scientific formations. Physical assets and the land, on which they are located, should belong to them. But this is not specified anywhere and in any way. The subject of science has not been provided with either means of production (that is to say, research) or land. That is, it is a matter of a basic document—the Law on Property. Of the most sore thing for our society. Today everyone interprets it only as a law that will give peasants land. But in reality it is far broader and deeper. It is one thing when I have these means of research in day-to-day management, and another when I am able to use them and on the basis of this can implement a long-range policy in the area of science and education.

We also cannot do without laws on the protection of foreign investments in our sphere. Because today no one wants to give us money which taxes gnaw away so much that scientists are left with drops—it is easier to invite the most capable people to go abroad to work for a while....

That is why when such a council, which is called upon to regulate regional scientific policy, is born, I want to say: Let us not hope that it will be able to live without a legal base, without the terrestrial gravity of laws....

## Yeltsin Mandated Basic Basic Fund Explained

*927A0260A Moscow POISK in Russian No 29 (167), 11-17 Jul 92 p 3*

[Interview with Vice President of the Russian Academy of Sciences Andrey Gonchar, organizing director of the Russian Basic Research Fund, by POISK corresponding Yelizaveta Ponarina, under the rubric "A Topical Interview"; date and place not given: "The Long-Awaited Fund"—first two paragraphs are POISK introduction]

[Text] The time, which was allotted by the president of the Russian Federation for drawing up the draft of the charter of the Russian Basic Research Fund, is nearing an end. Just recently absolutely blurred, the contours of the long-awaited fund are appearing more and more distinctly. What will it be, on what principles is its work planned?

Today at the request of our correspondent Yelizaveta Ponarina Vice President of the Russian Academy of Sciences Andrey Gonchar, organizing director of the Russian Basic Research Fund, answers these questions.

[Gonchar] It would be possible to give sufficiently complete precise answer to the posed questions after having published the charter of the fund. However, thus far the charter has not been approved, this should be done by the end of July. This, I hope, will be a very concise document, and your newspaper will be able to publish it. Today I will be able to answer the questions in most general outline.

The basic task of the fund being organized has already been formulated in the ukase of the president: the support of enterprising scientific projects. In the general opinion, projects that can be implemented by small scientific collectives or individual scientists. However, judging from the documents that already now—before the announcement of the start of the work of the fund—are converging on it, not everyone perceived correctly the line about the 3-percent deductions. They decided that 3 percent will be deducted from the total budget of the Russian Federation (I was told that it had thus been announced on one of the television programs). And, in essence, the plans of scientific research work of institutes, in which the word "theme" has been replaced by the word "project," are coming to the address of the fund.... And many millions of rubles are being asked for this. In the ukase it is a matter of 3 percent of the assets that are envisaged for the financing of science according to the budget of the Ministry of Science, the Higher School, and Technical Policy. Thus, we will dispose of a far smaller sum, which supplements the budget (base) financing of academic and sectorial institutes and science at higher educational institutions, the financing of science in accordance with state scientific and technical programs, and others. This does not mean that it is negligible. At present, when many institutes, centers, and other scientific collectives are in a very difficult financial position, the fund will be able to give them substantial support.

Along with the financing of enterprising scientific projects among the basic tasks of the fund are the giving of additional help to scientific research institutions and higher educational institutions, which conduct basic research, in the development of the material and technical base, the financial support of scientists, primarily talented young scientists, which is aimed at increasing their scientific skills (practical studies at leading scientific centers, participation in scientific measures—both in our country and abroad), and the financial support of international scientific cooperation in the area of basic research.

The fund will promote the dissemination of scientific information in the area of the basic sciences, the formation and use of knowledge banks and bases, and the international exchange of scientific information. In speaking about scientific information, I also have in mind the support of scientific publications, first of all leading scientific journals and other periodicals, which promptly publish the results of basic research. But under the conditions of the market and the manifold increase of paper prices and printing and other expenses these publications and scientific publishing houses as a whole are experiencing very difficult times.

Perhaps, not everything said above will find reflection in the charter. But it should be said in it without fail that in all cases financing will be carried out on a competitive basis, after the making of an examination of the submitted proposals.

The chairman will direct the fund, the Council of the Fund made up of 20-30 representatives of academic and sectorial institutes, universities and other higher educational institutions, and regional scientific centers will be the supreme body. The council will have to make decisions on fundamental questions of the activity of the fund. It will determine the amounts of the allocations, which are being channeled into the accomplishment of the basic tasks of the fund, will approve the list of expert councils of the fund and their composition, as well as the general list of experts of the fund, will make decisions on the financing of enterprising scientific projects and other proposals, and will approve the standard acts that regulate the activity of the fund. It is difficult now to discuss the details that are connected with the organization of the work of the fund. One thing is clear—the organization of the examination and competitive selection of proposals will be the most difficult and vital problem, the solution of which has to be found in the process of the operation of the fund.

I will also note that we would like by means of the Basic Research Fund to try to correct the list in the financing of basic science, which appeared after the organization of the system of state scientific and technical programs. Such programs as "The Life Sciences and Biotechnology," "High-Energy Physics," "High-Temperature Superconductivity," and many others to a significant degree are based on basic research. They are financed

rather well, and many organizations, at which the corresponding work of a basic nature is being performed, are receiving significant financial support under these programs. At the same time other collectives, which are conducting basic research at the world level, but are in no way connected with state scientific and technical programs, are living only by means of the base financing of their organizations. Why did such a situation form? Initially the programs were set up in the directions, in which our country lagged behind the world level and additional assets were required for the development of the material and technical base of the corresponding institutes in order to attain this level in the shortest possible time. They were replenished and supported, and the time came when many of the best, world-famous institutes, the direction of the work of which was not connected with existing state scientific and technical programs, turned out to be among the most "poor" ones. If we do not support them, many scientists will simply be forced to accept invitations, often very prestigeous ones, and to go abroad to work (which is already happening).

Here it hardly makes sense to set up newer and newer projects, especially in theoretical directions, be it mathematics or the humanities. It is more logical to equalize, to balance the situation by means of the Basic Research Fund, giving financial support from the fund mainly to the scientific projects and collectives, which cannot get such support from state scientific and technical programs. Especially as the total assets of the programs exceed by several fold the assets of the fund.

In conclusion about the immediate plans. The charter of the fund and the composition of the Council of the Fund should be approved by the government of Russia in the next few days (or weeks). The first meeting of the council takes place in September. I think that in October the fund will announce the start of its work. This year the competition will have to be conducted in the shortest possible time in order to begin the financing of scientific projects and other proposals starting in 1993.

**From the Editorial Board. We will inform readers about the subsequent process of establishing the Basic Research Fund, while at the same time in the next few issues we will also comment on the remaining points of the Ukase "On Urgent Steps on the Preservation of the Scientific and Technical Potential of the Russian Federation."**

## Commentary on Western Aid for Russian Scientists

*927A0234A Moscow RADIKAL in Russian No 21 (79), Jun 92 p 1*

[Article by Vladimir Pokrovskiy; date and place unknown: "West Seeks Ways to Help Our Scientists"]

[Text] **Western aid to our scientists is expanding. This is really so, although few Russian researchers can boast that they are satisfying their curiosity not on a pathetic state account, but for full-valued dollars.**

As we already know, the International Scientific and Technical Center, called on to pay for the research of Russian nuclear scientists, is being created at full speed. Very persistent and reliable talks are taking place about the hundred million dollars intended for the support of Russian basic research. True, no one has seen these dollars. It is not even very clear from whence they will come. According to some information, the U.S. Congress either has already allocated this sum, or is planning to allocate it any time now. According to others, it is not the congress at all, but the largest scientific funds which have gathered together and passed the hat. There is also a third version in which it is not the funds which contributed, but the biggest states, naturally including the U.S. Perhaps, however, there has been some confusion here with the International Scientific and Technical Center for nuclear scientists.

A great many more modest funds are also appearing. Thus, the editors have information about the creation of a certain "Amerus Fund," aimed at the states of the former Soviet Union (FSU). It is suggested that for the next four years this fund will spend about five million dollars to support research in the FSU, particularly to encourage the transfer of research efforts into the growing private sector, with active cooperation with contractors in the U.S.

The magazine NEYCHUR reports that the Stanford Linear Accelerator Center is awaiting permission from the U.S. Department of Energy to support some twenty theoretical physicists from the St. Petersburg Physical and Technical Institute at a sum amounting to tens of thousands of dollars.

This is just one of the examples. Western researchers are talking a great deal about how to help their colleagues from the FSU and are suggesting the most diverse methods for this aid. They do have one thing in common: The money should not go through the hands of the former Soviet bureaucracy, it must be transferred directly to the scientists. True, a question immediately arises: To whom specifically should it be transferred?

The question is far from idle. Of course, there are many scientists who have made a name for themselves. However, there is a tremendous number of talented young people, unknown in the West, without whose participation any joint program might end in failure. For instance, this is what former Leningrader Mark Shtrikman from Pennsylvania State University thinks.

"At our university," he says, "we create small centers of four-five people. Each such center is led by a famous Russian specialist, who comes to visit us. He selects the group, inviting young researchers from Russia. When the group has worked here long enough to have established solid contacts with American colleagues, it is sent back to Russia and frees a place for the next group."

This kind of "shuttle session" is also being practiced at other Western universities. In the opinion of NEYCHUR, it entirely justifies itself. Researchers from the

FSU are very rapidly involved in all the subtleties of the Western approach to financing science, including an intensive course on writing grant proposals and other aspects of scientific research under the conditions of a market economy. This is painstaking, time-consuming work, but, as one of our scientists explained to the Americans, "you have no idea how quickly people learn on hungry stomachs."

There is one detail, known to everyone, due to which Western aid is so attractive for both sides: This is the difference in the exchange rates between the dollar and the ruble. Their kopeks are a whole fortune for us right now, but this cannot last forever. Already voices are being heard, warning that aid to FSU science may turn out to be a far longer and more expensive undertaking than it seems today. This heaven is the opposite side of the hell in which the FSU states now find themselves, which we must pray does not last forever.

Western scientists regard their impoverished colleagues with generosity and sympathy. They do not overly emphasize the entirely obvious fact that the money intended for the scientific "needy" most often comes from the same pot, from which they themselves are fed, and the unusual cheapness of our scientists makes them threatening competitors.

For now they are silent, but the Russian scientific diaspora is already beginning to fall into a mild panic. For instance, we know of one rather exemplary episode which occurred during the regular Miller lecture at the Massachusetts Institute of Technology.

This annual lecture was founded by the Miller family, who graduated from MIT, and is quite famous in the U.S. In 1992 it was devoted precisely to the issues of aid to Russian science. Different variants were proposed, but they all had one thing in common: The aid should in no case go through our state structures. Incidentally, Sergey Kapitsa spoke with great success there. In his opinion, Russian scientists are not at all like earthquake victims, who urgently need blankets and items of prime necessity. We need not humanitarian aid, said Kapitsa, but the opportunity to work. We are in a condition to earn our keep. In many cases our scientists are entirely capable of working on par with Western scientists, and therefore, he said, let us not be concerned with free soup, but let us better organize joint projects, aimed at solving problems common to all civilizations: in ecology, health care, etc.

When the lecture ended, a group of highly agitated young scientists approached the speaker. They were emigrant scientists from the FSU. They began in fairly sharp tones to say that "this Soviet" science needs no help whatsoever, but needs a law on departure: As soon as this is passed, all problems will immediately be solved. In all the science of the FSU about 10,000 people must be saved, and no more. These 10,000 themselves will leave, the rest will cease to exist as scientists, and everything will resolve itself. The emigrants, in particular, were very negative toward the fund to support nuclear scientists. "From this fund," they said, "nuclear physicists are paid about 60-100 dollars a month (a fact which the editors have not yet confirmed), and now the whole West knows that the price for a Russian physicist is hundreds a month. We have fought for the right to work on equal footing with American colleagues, but now they rub our noses in this hundred dollars and hint that it is possible to lower our salaries too."

## Personnel Situation at Russian Academy of Sciences Discussed

*927A0261A Moscow POISK in Russian No 28 (166), 4-10 Jul 92 p 13*

[Interview with Candidate of Sciences Andrey Yurevich, head of the sector of the social psychology of science of the Institute of the History of Natural Science and Technology of the Russian Academy of Sciences, by POISK correspondent Aleksandra Mukhina, under the rubric "Where Are We Heading?"; date and place not given: "Learn To Live by Your Own Mind"—first two paragraphs are POISK introduction]

[Text] "Russian science is in danger," David Archis, a sociologist of science from Philadelphia, said in an interview with our correspondent. "We will try to help you with the journals and books, which are necessary for work. But in the future a worse misfortune, with which you will be able to cope only independently, awaits you—unemployment. In America in connection with disarmament at one time researchers from the defense complex also suffered. In Russia this group of victims will probably be broader...."

That is, to all appearances, how it is. But how deep has the crisis gone? What are the prospects of the development of the situation? Today at the request of our correspondent Aleksandra Mukhina Candidate of Sciences Andrey Yurevich, head of the sector of the social psychology of science of the Institute of the History of Natural Science and Technology of the Russian Academy of Sciences, offers his forecast.

[Yurevich] Today science is replenishing many new structures of our society. For example, among executives of commercial structures up to 30 percent are former scientists. The most vivid example is Konstantin Borovoy.

However, many people wonder: Why did office "occupants" not begin to feel feverish where the strong wind of the market blows? Because they have rather good protection—their own mind. In case of speculation in beer at the metro they may both not show their worth and even be in the way, but for big business great intellectual development is absolutely necessary. Intellect is, after all, not the sum of knowledge on a specific subject. This is the ability to make correct decisions in a nonstandard situation. Without a developed mind and a broad outlook the devising of flexible business combinations is absolutely impossible.

Another ecological niche for former scientists is political activity. However, in my opinion, for the most part not the most successful scientists are leaving science for it. As a rule, they are left with "their own score against science," and personal grudges return like a boomerang to the scientific community.

[Mukhina] A scientist leaves himself for commerce and politics, but here they are placing him under "reduction." And now, they say, more and more unceremoniously and often....

[Yurevich] The reduction in science for the most part is a myth. At the academy they are talking about it all the time, but in reality it either is not occurring at all or is insignificant. They are cutting mainly people of "over-the-limit" age. The sword of Damocles of reductions hangs over scientists in any country, but in our country this sword...is not falling.

[Mukhina] The reverse side of this humanism is universal poverty. I do not know a single scientist who would not complain of the severe lack of money....

[Yurevich] And again the situation is sooner gray than black. The wage is being increased!

It must be said that in this respect the new chiefs of the RAS [the Russian Academy of Sciences] and the Ministry of Science, the Higher School, and Technical Policy are doing very much for scientists. Earlier, when a scientific associate with a degree earned only 400 rubles [R] a month, on reading in the metro advertisements that they were willing to pay a cleaning woman 1,200, he simply sank into depression. A society, in which cleaning women are valued threefold more than scientists, is doomed. Now, when you earn 4,500 and see that your wage is comparable to the wage of a salesman, it becomes morally easier. Justice as if triumphs. Although, of course, we are simply deceiving ourselves: After all, in the shadow economy people earn millions, while in the north, for example, when going on vacation, they go to the savings bank with a suitcase....

[Mukhina] But then not every scientist crawls under the ground every day....

[Yurevich] Yes, scientists as before have a rather carefree way of life and a large amount of free time, which it is possible to spend sensibly and to earn a little extra in other places. Here, incidentally, it has not become better: Earlier a scientist lived from dissertation to dissertation, from monograph to monograph—for he had to confirm periodically his professional level. Now degrees and dissertations have depreciated, it is practically impossible to publish a book. For example, in order to pay the Nauka Publishing House for publication of a manuscript 15 printer's sheets long, it is necessary to put out R90,000. It is most offensive of all that these are the expenditures not on the publication of the book proper, but on the maintenance of the excessively inflated staff of the publishing house. In a month or two the publication will be more expensive without fail, prices are increasing all the time. In such a situation of what self-discipline in science can it be a question? People are losing their reference points, and, as a psychologist, I consider that now our greatest misfortune in science is the crisis of the self-consciousness of the researcher. The man is losing the ground under his feet, self-esteem....

[Mukhina] As a result, therefore, are institutes, which are incapable of feeding themselves, probably disappearing one after another from the scientific map of the country?

[Yurevich] On the contrary. The constant subdivision of scientific structures, the detachment of new ones from old ones, overlapping...are occurring. Apparently, the new centers were contemplated as alternative centers, and one day in the process of competition the weak ones will disappear of their own accord. Why for the most part are centers of the humanities type being established? A center of the sociology of science or a psychological center is a group of like-minded people, and that is all, without instruments. It is almost impossible to establish a physics institute—who can afford to acquire the equipment necessary for it?

While philosophers now are mainly trying to engage in the publishing business.

[Mukhina] But the book market seems to be more than saturated!

[Yurevich] But with what? People quickly became fed up with Agatha Christie and pornography, science fiction will hold out a little longer, but already now the demand for philosophical literature is growing. For example, I know that the publication of the works of Kant simultaneously in Russian and German is anticipated.

Psychologists are earning from practice—when a person has a serious problem, he will give his all if only to acquire emotional composure. Moreover, now the obtaining of an elementary psychological education is very popular: People are willingly attending all kinds of courses....

Many institutes are living by renting out their premises. Whoever has extra space tries to crowd together.

But those that do not have their own space, on the contrary, lay out millions in order to have at least somewhere to sit. Often the rent turns out to be more than the annual budget of the institute. Of course, there is one solution here—to work at homes and libraries. But what are the representatives of other disciplines to do? You will not conduct physics or chemistry experiments in the kitchen....

[Mukhina] And here the solution is also clear—is one to clear out while the going is good for distant countries?

[Yurevich] Approximately 70,000-75,000 scientists and engineers a year are leaving our country. The year before last a little more than 500 people left the system of the Academy of Sciences. It is not that many, if you consider that on the order to 60,000 scientists work at the academy. While in all there are approximately 4 million people in science of the CIS. Whereas in 1988 about 150 academic scientists left the country, in 1989, 300 did. The main thing is that the best ones are leaving. And, however paradoxical, the worst, but mobile ones are leaving. The middle level is staying.

The majority of emigrants have had time to show themselves to advantage abroad—they are going for a well-paid job. Especially as the majority here, from the standpoint of science, have nothing to lose. Primarily physicists are leaving, after them come biologists and, finally, mathematicians. At the "tail" of the list are representatives of the humanities.

The first "returners" have also appeared. Some, having lived there, understand that life there is not entirely for them. For in our country in science it is easier for the "weakling" to hold out. Moreover, having a few dollars, in Russia it is now possible to live not much worse than in the West—after all, nowhere in the world are there such low currency prices as on our markets.

Therefore, very often a scientist, who has been lucky, goes abroad under contract, but leaves his family here. For in Russia on a very modest portion of his currency income his family can live rather well. It is impossible to call this a "brain drain." Rather it is possible only to welcome seasonal work: After all, by leaving "roots," a scientist will sooner return, when the opportunity to live and work normally here appears.

The age structure of migration has also changed somewhat—it is becoming younger. Apparently, we are moving in the direction of the Chinese model of the "brain drain," when the basic age of those leaving is 21-24. In our country people tried earlier to obtain a free education, and then they attempted, having left for the West, to get an appointment and to pass the examinations. The Chinese simply go to enroll in American higher educational institutions at random, and their education is subsidized by "the receiving party," which is interested in talented people remaining and leaving their ideas in America. If you have been able to adapt, it is splendid, if you have not, a tragedy does not happen, you simply return to your homeland with a diploma in your pocket....

## Goals of New Russian Academy of Sciences Trade Union Explained

*927A0261B Moscow POISK in Russian No 28 (166), 4-10 Jul 92 p 13*

[Interview with Candidate of Physical Mathematical Sciences Aleksey Zakharov, deputy chairman of the Council of the Trade Union of the Russian Academy of Sciences, by a POISK correspondent, under the rubric "Who Will Undertake To Defend?"; date and place not given: "The Rescue of a Drowning Man..."; first two paragraphs are POISK introduction]

[Text] At the Russian Academy of Sciences its own trade union has been established. Its distinction from previous ones lies not only in the fact that scientists have been included here along with instructors of higher educational institutions and schools and the student body, but also in a new structure—the present trade union has an elected Public Council, which in turn forms the executive committee and elaborates for it a strategy of activity.

Candidate of Physical Mathematical Sciences Aleksey Zakharov, deputy chairman of the Council of the Trade Union of the Russian Academy of Sciences, tells our correspondent what it will be like.

[Zakharov] Recently the government decided that the time had come to switch from research along the entire scientific front to work in individual directions, that is, to concentrate the available few financial assets where high results have been achieved and it makes sense to head for a "breakthrough." Such a maneuver can turn for the academy into large reductions. Here the danger of rash and incompetent decisions will arise. One of the tasks of the new trade union is to aid the establishment of an independent expert system, which makes it possible to decide in a flexible manner who "stays" and who "leaves."

Now a regulated procedure of eliminating the shortage of assets at scientific institutions does not exist. A trivial reduction may actually be concealed behind this wording. Especially if an institute is incapable of maintaining the old staff under the new conditions. The trade union will help the collective to seek other, alternative possibilities of financial replenishment and will monitor this work.

Among the priority tasks of the trade union is the establishment of a retraining center, the "graduates" of which can be placed in jobs as economists, translators, commercial agents, and so on. We are also planning the establishment of a data bank (after the pattern of the labor exchange) and the preparation of a project of the adaptation of Russian science to the new, market conditions of existence.

Moreover, the search for investors for promising projects and the financing of new ideas will be among the tasks of the trade union. We will gather and disseminate information about organizations, which make grants available to scientists, will advise our specialists on how to write applications properly, how to prepare for a competition....

One of the most important problems today is the privatization of housing at academy campuses. Apartments there are prized, the region is usually considered prestigeous. But what if a scientist purchased an apartment, but then concluded an advantageous contract and decided to leave for another city or country? He will surely want to sell the housing. And with time at academic campuses people, who are far from scientists, will make up a large part of the population. In this case should one not grant scientists some tax benefits and keep back "aliens" with higher prices? Apparently, here the trade union will also have to defend the interests of the scientific community.

## Wages of Russian Academy of Sciences Staff, Employees Reported

*927A0261C Moscow POISK in Russian No 28 (166), 4-10 Jul 92 p 13*

[Article under the rubric "Do They Value Us Dearly?"]

[Text] As of 1 July the following salaries of top-level scientific personnel of the presidium of the RAS [the Russian Academy of Sciences], its departments and scientific sectors, as well as scientific associates and the managerial staff of scientific research institutions of the academy have been established:

| | |
|---|---|
| president of the RAS | R18,000 ($133) |
| vice president of the RAS | R15,300 ($113) |
| chief scientific secretary | R15,300 ($113) |
| academician secretary of a department | R13,500 ($100) |
| member of the presidium | R11,700 ($87) |
| scientific secretary of a department | R3,600-4,500 ($27-33) |
| chairman of the presidium of a scientific center (affiliate) | R5,400-6,500 ($40-48) |
| management personnel of scientific research institutes and their affiliates | R4,800-6,000 ($36-44) |
| director of an institute | R4,800-6,000 ($36-44) |
| deputy director of an institute for scientific work, director of an affiliate of an institute | R3,800-5,300 ($28-39) |
| deputy director of an affiliate of an institute for scientific work | R3,300-4,800 ($24-36) |
| head of a scientific research division (department, laboratory) of an institute, scientific secretary of an institute | R2,800-4,800 ($21-36) |
| head of a scientific research sector (laboratory), which is a part of a scientific research division (department, laboratory), scientific secretary of an affiliate of an institute | R2,400-4,700 ($18-35) |

Management personnel of other scientific research institutions:

| | |
|---|---|
| director | R2,800-4,800 ($21-36) |
| head of a scientific research division (laboratory) of an institution, scientific secretary | R2,400-4,700 ($18-35) |

Scientific personnel of scientific research institutes, their affiliates, and other scientific research institutions:

| | |
|---|---|
| chief scientific associate | R2,800-4,800 ($21-36) |
| lead scientific associate | R2,300-4,300 ($17-32) |
| senior scientific associate | R1,900-3,700 ($14-27) |
| scientific associate | R1,500-3,100 ($11-24) |
| junior scientific associate | R1,350-2,500 ($10-18) |

## Newly Elected Members of Russian Academy of Sciences Announced

*927A0254A Moscow POISK in Russian No 25 (163), 13-19 Jun 92 p 5*

[Article: "From the Russian Academy of Sciences"]

[Text] In conformity with the announcement of the Russian Academy of Sciences of 1-7 February 1992 in the newspaper POISK on the holding of the election of full members of the Russian Academy of Sciences scientific centers, research institutes, academic and scientific councils, higher educational institutions, state and public organizations, and members of the RAS [the Russian Academy of Sciences] nominated 551 candidates for full members of the RAS.

On 11 June 1992 in accordance with the Temporary Charter the following scientists were elected full members by the General Meeting of the Russian Academy of Sciences:

**Mathematics Department**

D.V. Anosov

**General Physics and Astronomy Department**

Ye.N. Avrorin Ye.B. Aleksandrov F.V. Bunkin A.A. Galeyev Yu.N. Denisyuk A.M. Dykhne B.P. Zakharchenya V.V. Migulin Yu.N. Pariyskiy D.D. Ryutov R.A. Syunyayev V.I. Talanov V.P. Chebotayev B.V. Chirikov

**Physical Technical Problems of Power Engineering Department**

V.Ye. Alemasov M.F. Zhukov V.I. Kiryukhin B.M. Kovalchuk I.I. Novikov V.P. Skripov N.N. Tikhodeyev N.S. Khlopkin

**Problems of Machine Building, Mechanics, and Control Processes Department**

M.D. Ageyev V.V. Bolotin D.M. Klimov A.A. Krasovskiy V.P. Myasnikov V.V. Rumyantsev M.N. Tishchenko F.L. Chernousko T.M. Eneyev

**Information Science, Computer Technology, and Automation Department**

V.S. Burtsev V.P. Yefremov Yu.I. Zhuravlev P.S. Krasnoshchekov Ye.P. Popov

**General and Technical Chemistry Department**

N.F. Bakeyev I.P. Beletskaya A.L. Buchachenko B.V. Deryagin A.I. Konovalov I.I. Moiseyev G.V. Sakovich V.A. Tartakovskiy O.N. Chupakhin

**Physical Chemistry and Technology of Inorganic Materials Department**

O.A. Bannykh A.M. Kutepov F.G. Reshetnikov V.D. Rusanov

**Biochemistry, Biophysics, and Chemistry of Physiologically Active Compounds Department**

I.G. Atabekov Yu.V. Ilin Ye.N. Kondratyeva N.N. Nikolskiy R.I. Salganik L.S. Sandakhchiyev Yu.S. Ovodov A.S. Khokhlov

**General Biology Department**

G.V. Dobrovolskiy I.Yu. Koropachinskiy D.S. Pavlov O.A. Skarlato

**Physiology Department**

S.N. Yefuni Yu.V. Natochin T.M. Turpayev

**Geology, Geophysics, Geochemistry, and Mining Sciences Department**

A.L. Knipper V.A. Koroteyev P.N. Kropotkin F.A. Letnikov Ye.Ye. Milanovskiy A.B. Ronov I.D. Ryabchikov V.N. Strakhov A.D. Shcheglov S.A. Fedotov

**Oceanology, Atmospheric Physics, and Geography Department**

M.I. Budyko G.I. Galaziy A.S. Sarkisyan G.V. Smirnov

**History Department**

N.N. Bolkhovitinov Yu.A. Pisarev N.N. Pokrovskiy V.G. Trukhanovskiy

**Literature and Language Department**

Yu.D. Apresyan N.I. Balashov M.L. Gasparov D.V. Sarabyanov O.N. Trubachev

[Signed] Acting President of the Russian Academy of Sciences Academician A. Gonchar

Chief Scientific Secretary of the Russian Academy of Sciences Academician I. Makarov

## Ministry of Science Official on 'Brain Drain'

*927A0231A Moscow RADIKAL in Russian No 23 (80), Jun 92 pp 9, 10*

[Article by Valentin Valyukov, head, Department of Social Problems of Science, Ministry of Science, Higher Education and Technical Policy of Russia; date and place unknown: "'Brain Drain' Can Be Controlled"]

[Text] **Naturally, the Concept of Scientific and Technological Policy of the Russian Federation, published in RADIKAL (No. 12, 1992), touches on the brain drain problem. Implementation of a special program of socioeconomic measures is proposed in order to prevent this process.**

Unquestionably, such a program is necessary, but our traditional approach, "prevention," evokes an objection. Is it possible to prevent such a multifaceted, complex, and in many ways natural process, as the migration of scientists? Rather, we should speak of its regulation.

The brain drain problem is the consequence of the economy's insufficient ability to absorb skilled cadres. When the emigration of scientists and specialists begins strongly to exceed the "natural background" and to deform the optimum (for development of the national economy and reproduction of knowledge) cadre structure which comprises our national scientific and technical potential, it turns from the scientific community's internal problem into a state policy problem.

Given the artificial restraint of the brain drain's "natural background" in the former USSR during the entire period of postwar history, today it is hard even to determine what it ought to be for Russia.

On the one hand, it is rather high, if we compare with foreign countries the scales of training of specialists in VUZs, the powerful and extensive network of state "science departments," the state budget financing of the lion's share of scientific research in the country, and the existence in Russia of large scientific centers, the Russian Academy of Sciences, etc. And all this mighty cadre potential is forced to experience a shortage of the most necessary things: scientific equipment, a modern experimental design base, and information technology. Even the salary of scientists and specialists today does not enable them to engage in science freely, not even to mention the other conditions for every "thinking person."

On the other hand, the "natural background" of the outflow should not be especially high, if we compare the structural and qualitative characteristics of our scientific and engineering corps to the level of developed foreign countries in terms of the degree of orientation toward the priority problems of the world scientific and technical revolution, in terms of its experience and ability to be self-managing on the democratic principles of the world scientific community, in terms of the search for optimum combinations of new and classic organizational forms for science and scientific service, and in terms of the motivating purposes of labor, combining personal and societal (corporate) interest, entrepreneurial initiative from below, and objectivity in the search for scientific truths from above.

However, be this as it may, above all we must formulate the problem correctly. We must examine the migration of scientists, in general, as a normal social phenomenon of the modern world, and then single out the painful anomalies in this phenomenon, one of which we have named the "brain drain" from Russia.

The country has ended up in a situation in which an epidemic has struck unexpectedly, and we have been unable to make mass vaccinations. Indeed, there are no proven vaccines. There is not even time to develop one, not to mention that strictly speaking no one in the country even knows how to develop one.

Today we are trying to grope after the "sore spots" by turning directly to the scientific migrants. Despite the lack of coordination in questionnaires, sociological selections, and methods of conducting surveys, and the disorderly method of managing all this activity on the part of the state, political parties, trade unions, and the mass information media, for now sociological research is the only method for the practical monitoring of this problem. In any case, an accurate diagnosis cannot be made without it, and without a diagnosis the search for a treatment is fraught with the useless expenditure of resources, loss of time, and unpredictable results.

At present, the Russian Ministry of Science is financing a number of research projects which should help accurately to diagnose the "disease" and to outline an effective "treatment." It has managed to concentrate the efforts of many organizations working on the brain drain problem, above all those such as the "ISTINA" [Truth] Center of the Ministry of Science of Russia, the Sociopolitical Research Institute, the Analytical Center for Problems of Socioeconomic and Scientific and Technical Development, the International Economic and Political Research Institute, the Institute for the History of Natural Science and Technology, and the Sociology Institute of the Russian Academy of Sciences.

It seems that the planned studies will enable us to develop scientific approaches to drafting a concept and strategy for regulating the process of the "brain drain" from the scientific and technical sphere, to an effective foreign emigration policy of Russia under conditions of

conversion to a market, to creating favorable prerequisites for the country's entry into the ranks of international organizations (in particular, the International Organization on Migration (MOM)) as a permanent member, and to undertaking the creation of a comprehensive legal, organizational, and economic base for international cooperation in the sphere of exchange of scientific and technical cadres in the interests of the world community.

In starting to draft the State Program, we are trying above all to answer a number of key questions. Toward what model of science should our state strive in organizing a market economy? What are the possible consequences of the 'brain drain' process for Russia's science? What real opportunities does the state possess for regulating this process?

One part of the measures proposed in the program aims to create a normal civilized mechanism for the functioning of science according to modern world standards, which in principle does not relate directly to solving the problematical "brain drain" situation. The second part of the program should be aimed directly at a set of measures for rapid reaction to the dynamics of the "brain drain" process. In this regard, all measures should be calculated for the time when achievement of the desired effects is expected: short-, mid-, and long-term.

In the program it is necessary to stipulate both the further development and improvement of legislation in the area of scientific research and scientific pedagogical activity, as well as a number of steps aimed at improving conditions for the professional activity of specialists and scientists.

Psychological factors must not be ignored. We must shape public opinion such that Russian emigrant scientists are an inseparable part of the Russian nation. Scientists who have left the country should feel needed by the Russian people and should recognize their duty to them.

In the framework of the state program, help with the establishment and development of a scientific information exchange between emigrant scientists and Russian organizations, the issue of Russian-language scientific and technical publications abroad, and the organization of permanent scientific seminars, intermediary companies, a bureau for scientific tourism, scientific information agencies, etc., could become tools for moral support.

At the same time, orders for various research, design, or technological development projects, in my opinion, are capable of sharply reducing the flow of emigration. The general considerations, making such orders profitable for Western industrial and commercial structures, are obvious here: At one and the same level of skill, the payment of labor in freely convertible currency for an engineer or researcher, working in Russia, now and in the near future will be a factor of 10 lower than payment for a specialist working in Europe or America. The organization of such "made-to-order" activity could occur along various channels.

It goes without saying, the development of the State Program should be implemented in close contact with broad scientific society. Moreover, according to the experience of countries which have experienced similar problems, we should also organize the systematic preparation of a report ("white book") for presentation to the Supreme Soviet and government of Russia, which would analyze the dynamic of migration processes and newly arising factors and conditions. On this basis, it would be possible to draft measures to correct the adopted program and to suggest drafts of additional normative acts, aimed at lessening our loss from the emigration of scientists and highly skilled specialists.

## Basis for Ukrainian Patent System Established

*927A0244A Moscow RABOCHAYA GAZETA in Russian 16 May 92 p 2*

[Article by Ukrainian Academy of Agricultural Sciences associates V. Bryzhko, honored inventor of the republic, winner of the NTTM Prize, L. Nikolayenko, and A. Pichkur, winner of the NTTM Prize; date and place unknown: "Comments on the Subject: Who is Defending Ostentation?"]

[Text] **By the 27 January 1992 decision of the Cabinet of Ministers of the Ukraine, the State Patent Department of the Ukraine was created, and on 3 March 1992 the Committee on Scientific and Technical Progress under the Cabinet of Ministers of the Ukraine passed a resolution to form the Scientific Research Center for Patent Expert Analysis of Gospatent of the Ukraine. A start has been made to forming a national patent system.**

**The comments being published speak of the difficulties of the current period.**

On the last day of May 1991, before voting on the Law on Invention, the Chairman of the USSR Supreme Soviet, addressing the hall, asked with a sly grin: "Well, what shall we call this organization, an office or an agency?" Being a politician and jurist on a large scale, he could not help but know that in the world such organizations bear the name Patent Department. The goal of their work is to stimulate innovative activity and competition. Essentially, the intention is to advance scientific and technical progress and to stop dishonest hands. So what is the point? Why such a disrespectful attitude toward an activity, which was backed by an act at the level of law for the first time? And what bearing does this have on us now?

The bearing, it seems, is most direct.

The present situation with invention work is the grossest social injustice. For many years we have happily reported on the indicators of efficiency, technical level, and production quality, constantly climbing upwards. At the same time, the opposite was observed: explosive television sets, heavy bicycles, unwieldy cars, hard-to-assemble furniture, equipment that is endlessly being repaired.... This in fact was the price of the attitude toward patent activity and invention work.

World experience with civilized patent work, which is at least 200 years long, graphically attests to the need, first, for the functioning of professional patent subdivisions within organizations and, second, for the existence of a patent system in the state. The state system in the person of a Patent Department implements a flexible combination of patent, anti-monopoly, and tax legislation, applies economic and organizational measures to develop invention and patent activity, and monitors the use of inventions.

Local organizations are called on to raise labor productivity and actively to contribute to creating new types of production and to improving the technical and economic indicators of production, to economize material resources, to protect the surrounding environment, and to develop creative activity. The most objective assessment of the status and developmental trends of a research project is possible only by comparing the national and world level of scientific and technical innovation based on the results of patent and design research. There is no other way.

However, let us note, who in the first place is affected by the reductions in scientific organizations? Above all, the patent subdivisions.

The entire history of invention is a history of a struggle, in which systems supporting the ongoing work process predominate. They suppress the functioning of systems which support society's material and technical and technological development.

On the other hand, often there are cases in which patent activity is subordinated to various services, often the standardization or information service, "in the interests" of the organization. Such a mechanical unification of these services leads to a loss of functional independence, a distortion of the specific nature of patent work, and distracts the researcher from invention and patent work. Such an organization of patent work artificially conserves archaic forms of work, in the best case, in the amount of information support. The orientation toward information support for scientific research pushes the conduct of patent studies and the development of research into the background. As a result, society pays for its lack of foresight and inconsistency with low-level technical and technological solutions and low competitiveness.

With the creation of Gospatent of the Ukraine and the Scientific Research Center for Patent Expert Analysis, for the first time the prerequisites for the emergence of patent activity onto a professional path of development have been created in the state.

However, not everything is as simple as it seems at first glance.

To this day the Ukraine does not have its own patent law. Several versions of the Temporary Resolution on Protection of Industrial Property were drafted, the last of which, in our opinion, entirely satisfies the interests of the Ukraine's economic establishment at this stage. However, for some reason the Resolution is always being revised. This improvement may continue forever, it seems, in any case longer than it merits. Yet the inventors, who have accumulated a great amount of new technical and technological solutions, still have no opportunity to give them a start in life under state protection.

Yet another thing: The establishment and future of the Ukraine's patent system will depend on the effectiveness of the Patent Department's work. However, not everyone understands this. Individual ill-conceived actions are harming this work. For instance, the Republic Council of the Society of Inventors and Rationalizers of the Ukraine, seemingly an organization called on to protect the interests of inventors, and thus also the patent department, is confusing its work. In calling for the economy, simplification, and acceleration of patent expert analysis, the Society's leadership proposes and insists on conducting the preliminary expert analysis on social principles. What is this? A failure to understand what is happening, or hidden motives with mercantile incentives? After all, essentially it is proposed to follow the former routine and ostentation, introducing these relics into the principles of professional formulation of patent work which are being laid in the Ukraine.

Justice means taking into account the interests of others, not only one's own. However, not at the expense of sacrifice the just-born new system of patent interrelations to one's own prosperity.

It is possible to change the form, but it is hard to change the nature. Whereas the Society's leaders think that more than 70 years of experience with invention work in the country and with protection the inventors on social principles is insufficient, inventors and foreign companies hardly agree with this. Not a single country in the world has such a practice. World experience graphically states that the future belongs to professionals. So, let us define ourselves according to our true functional purpose. We must courageously acknowledge that the era of a nihilistic attitude toward organizing invention and patent work, the era of work on social principles has ended. The Ukraine needs a professional organization.

One wants to believe the words of the French physicist Frederick Joliot-Curie: "The time will come, when society's civilization will be judged by how people relate to inventors."

[Caption] Lutskiy Industrial Institute. Associates of the scientific research sector of the Department of Machine-building Technology, besides doing applied work on orders from industrial enterprises, also engage in basic science. Here, in particular, progressive low-waste technologies are being developed, applicable when stamping parts from porous materials. In the photograph: Junior scientific associate Sergey Usychenko (left) and graduate student Aleksey Zagublyuk ready a high-pressure installation for studying the mechanical properties of porous materials in a strained state. (Photo by A. Afanasyev)

## Nottingham University To Train Russian Geologists, Engineers

*927A0256A Moscow NEZAVISIMAYA GAZETA in Russian 30 Jul 92 p 6*

[Article by Yuliya Goryacheva: "The English Are Prepared To Pay for the Training of Russian Undergraduates"]

[Text] An agreement on the development of a special program of the training of Russian geological engineers has been signed between Nottingham University (England) and the Moscow and St. Petersburg mining institutes.

The goal of the project, which in a month will be submitted to the British government, according to the idea of its developers, will be able to bring the curricula of Russian higher educational institutions substantially closer to western standards.

It is natural that in addition to training periods in England of geological engineers, who are capable of perceiving new ideas adequately, the project includes the preparation of textbooks and the hooking up of students to a unified information system, which unites "everything that concerns the forecasting of the development of mining."

To the question of a NEZAVISIMAYA GAZETA correspondent, Why are the British prepared to take upon themselves the payment for this project (which will come to 191.75 pounds)?, Dr. Steven Hall, its coordinator, noted that it is more advantageous for England to deal with competent specialists. "Consequently, we are interested in producing them," he added.

## Text of Law Protecting Topology of Integrated Microcircuits

*927A0258A Moscow RADIKAL in Russian*
*No 28, 31 Jul 92 p 14*

[Law of the Russian Federation "On the Legal Protection of the Topology of Integrated Microcircuits" with a commentary by Georgiy Vitaliyev, general director of the Russian Agency for the Legal Protection of Programs for Computers, Databases, and Topologies of Integrated Microcircuits (RosAPO), under the rubric "Documents"]

[Text] **On the Procedure of Putting Into Effect the Law of the Russian Federation "On the Legal Protection of the Topology of Integrated Microcircuits"**

The Supreme Soviet of the Russian Federation resolves:

1. To put into effect the Law of the Russian Federation "On the Legal Protection of the Topology of Integrated Microcircuits" as of the day of publication.

2. The Law of the Russian Federation "On the Legal Protection of the Topology of Integrated Microcircuits" applies to the relations that are connected with the topologies of integrated microcircuits, the use of which for commercial purposes began after this Law was put into effect.

With respect to the topologies of integrated microcircuits, the use of which for commercial purposes began before this Law was put into effect, it applies to the legal relations that developed after this Law was put into effect, provided these topologies of integrated microcircuits have been registered with the Russian Agency for the Legal Protection of Programs for Computers, Databases, and Topologies of Integrated Microcircuits within two years from the date of their first use for commercial purposes.

3. The Government of the Russian Federation:

by 1 October 1992 is to submit in accordance with established procedure for consideration by the Supreme Soviet of the Russian Federation the draft of the Law of the Russian Federation on the Making of Changes and Additions to the RSFSR Civil Code and Other Standard Acts That Are Connected With Questions of the Legal Protection of the Topologies of Integrated Microcircuits;

by 1 July 1992 is to ensure the passage by the Government of the Russian Federation of standard laws in conformity with this Law;

is to envisage in the republic budget of the Russian Federation, starting in 1992, all the necessary items of expenditures in conformity with this Law.

4. To commission the Committee of the Supreme Soviet of the Russian Federation for Science and Public Education with the participation of the State Patent Office of the Russian Federation to generalize the practical experience of applying this Law and to report the results to the Supreme Soviet of the Russian Federation by 1 January 1994.

[Signed] Chairman of the Supreme Soviet of the Russian Federation R.I. Khasbulatov

### Article 1. The Basic Concepts

1. The basic concepts, which are used in this Law, are:

the topology of an integrated microcircuit (hereinafter the topology) is the geometric spatial arrangement of the set of elements of an integrated microcircuit and the couplings between them, which is fixed on a physical medium;

an integrated microcircuit (hereinafter IMC) is a microcomponent item of finished or intermediate form, which is intended for the performance of the functions of an electronic circuit, the elements and couplings of which are inseparably formed in the body and (or) on the surface of the material, on the basis of which the item was produced;

use for commercial purposes is selling, renting, or another method of commercial dissemination, as well as the proposal to carry out such actions. Hereinafter in the text of this Law by use there is meant precisely use for commercial purposes, if not stipulated otherwise.

2. By a proprietary in this Law there are meant the author, his heir, as well as any natural or legal person, who has exclusive property rights that were obtained by virtue of the law or a contract.

### Article 2. The Relations That Are Regulated by This Law

This Law regulates the relations which are connected with the development, legal protection, and use of topologies.

### Article 3. The Object and Terms of Legal Protection

1. The legal protection granted by this Law applies only to an original topology.

2. A topology, which was developed as a result of the creative activity of an author, is an original one. A topology is recognized as original until proven otherwise.

3. Legal protection is not granted by this Law to a topology, the set of elements of which is well known to developers and producers of IMC's on the date of its development.

Legal protection is granted to a topology, which consists of elements that are well known to developers and producers of IMC's on the date of its development, only if the set of such elements as a whole satisfies the requirements of point 2 of this article.

The legal protection granted by this Law does not apply to ideas, methods, systems, a technology, or coded information, which may be embodied in a topology.

**Article 4. The Authorship of a Topology**

1. There is recognized as the author of a topology the natural person, as a result of whose creative activity this topology was developed.

2. If a topology was developed jointly by several natural persons, each of these persons is recognized as the author of such a topology.

3. Natural persons, who did not make a personal creative contribution to the development of a topology, but gave the author only technical, organizational, or material assistance or contributed to the registration of the right to use the topology, are not recognized as authors.

4. The right of authorship of a topology is an inalienable personal right and is permanently protected by law.

**Article 5. Property Rights**

1. The exclusive right to use this topology at one's own discretion, particularly by the production and distribution of IMC's with such a topology, including the right to prohibit the use of this topology by other persons without the corresponding permission, with the exception of the cases stipulated by Article 8 of this Law, belongs to the author or another proprietary.

2. The procedure of the exercise of the rights, which belong to several authors of a topology or other proprietaries, is specified by a contract between them.

3. The commission of the following acts without the permission of the author or another proprietary is recognized as an infringement of the exclusive right to use a topology:

the copying of a topology as a whole or a part of it by its inclusion in an IMC or in another manner, with the exception of the copying of only that part of it, which is not original;

the application, importing, offering for sale, sale, or other introduction into economic circulation of a topology or an IMC with this topology.

**Article 6. The Transfer of Property Rights**

1. The property rights to a topology can be transferred entirely or in part to other natural or legal persons under contract.

The contract is concluded in written form and should establish the following essential conditions: the extent and methods of use of the topology, the procedure of the payment and the amount of the fee, the term of validity of the contract.

2. The property rights to a topology are inherited as prescribed by law.

**Article 7. The Property Rights to a Topology That Was Developed by Way of the Performance of Official Duties or Under Contract With a Client**

1. The property rights to a topology, which was developed by way of the performance of official duties or on the instructions of the employer, belong to the employer, if not otherwise stipulated in the contract between him and the author.

2. The procedure of the payment and the amount of the fee are established by the contract between the author and the employer.

3. The property rights to a topology, which was developed by the author under contract with a client who is not his employer, belong to the client, if not otherwise stipulated by contract.

**Article 8. Acts That Are Not Recognized as an Infringement of the Exclusive Right To Use a Topology**

1. There are not recognized as an infringement of the exclusive right to use a topology:

the use of legally acquired IMC's or items, which contain such IMC's, provided the person, who is carrying out such use, did not know and should not have known that these IMC's or the items, which contain such IMC's, were produced and are being distributed in violation of the exclusive right to use the topology. After the receipt of the appropriate notification from the proprietary of the topology this person pays adequate compensation for each IMC or each item that contains such an IMC;

use for personal purposes without the derivation of a profit, as well as for the purposes of evaluation, analysis, study, and training;

the distribution of IMC's with a protected topology, which have been legally introduced into economic circulation.

3. The acts, which are indicated in point 3 of Article 5 of this Law and are committed with respect to an identical original topology that was developed independently by another author, are not recognized as an infringement of the exclusive right to use the topology.

**Article 9. Registration and Notification**

1. The author of a topology or another proprietary can at his own desire directly or through his representative register the topology with the Russian Agency for the Legal Protection of Programs for Computers, Databases, and Topologies of Integrated Microcircuits (hereinafter the Agency) by submitting an application for the official registration of the topology of the IMC (hereinafter the application for registration).

2. The submission of an application for registration can be carried out within a period that does not exceed two years from the date of the first use of the topology, if it has occurred.

3. The application for registration should relate to one topology and should contain:

a request for the official registration of the topology of the IMC with an indication of the proprietary, as well as the author, if he did not turn out to be indicated as such, their location (place of residence), and the date of the first use of the topology, if it has occurred;

materials to be deposited, which identify the topology, including an abstract;

a document, which confirms the payment of the registration fee in the established amount or the grounds for exemption from the payment of the registration fee, as well as for the reduction of its amount.

The Agency specifies the other demands on the documents of the application for registration.

4. After the receipt of an application for registration the Agency verifies the presence of the necessary documents and their satisfaction of the requirements set forth in point 3 of this article. In case of a favorable result of the verification the Agency enters the topology in the Register of Topologies of Integrated Microcircuits, issues to the applicant a certificate of the official registration of the topology of the integrated microcircuit, and publishes information about the registered topology in the official bulletin of the Agency.

At the request of the Agency or on his own initiative the applicant has the right prior to the publication of the information in the official bulletin to supplement, specify, and correct the materials of the application.

The procedure of official registration, the forms of the certificates of official registration, and the composition of the data indicated in them are established by the Agency. The Agency also specifies the list of information that is published in the official bulletin.

5. The contract on the complete cession of all property rights to a registered topology is to be registered with the Agency.

Contracts on the transfer of the property rights to a topology can be registered with the Agency by agreement of the parties.

6. The information, which has been entered in the Register of Topologies of Integrated Microcircuits, is considered reliable until proven otherwise.

The applicant bears responsibility for the reliability of the indicated information.

7. Registration fees are collected for the carrying out of actions, which are connected with the official registration of topologies of integrated microcircuits and contracts, and for the publication of information.

The amounts and the dates of the payment of the registration fees, as well as the grounds for exemption from their payment or the reduction of their amounts are established by the Government of the Russian Federation.

8. For the giving of notice of his rights the author of the topology or his cessionary has the right to indicate on the protected topology, as well as on items, which contain such a topology, a notice about this in the form of an emphasized capital letter T ("T," T, T, T*, or T), the date of the start of the term of effect of the exclusive right to use the topology, and information that makes it possible to identify the proprietary.

**Article 10. The Term of Effect of the Exclusive Right To Use a Topology**

1. The exclusive right to use a topology is in effect for 10 years.

2. The start of the term of effect of the exclusive right to use a topology is determined according to the earliest of the following dates:

the date of the first use of the topology, by which there is understood the earliest documented date of the introduction into economic circulation somewhere in the world of this topology or an IMC with this topology;

the date of the registration of the topology with the Agency.

3. In the case of the appearance of an identical original topology, which was developed independently by another author, the total term of effect of the exclusive right to use the topology cannot exceed 10 years.

**Article 11. The Defense of the Rights to a Topology**

1. The author of a topology or another proprietary has the right to demand:

the recognition of rights;

the restoration of the situation, which existed prior to the infringement of the right, and the termination of actions, which infringe the right or create the threat of its infringement;

the compensation of the caused losses, in the amount of which the sum of the revenues, which were illegally received by the offender, is also included;

in addition to the compensation of the caused losses at the discretion of the court or the arbitral tribunal a fine in the amount of 10 percent of the sum, which was awarded by the court in favor of the plaintiff, can be exacted for the revenue of the republic budget of the Russian Federation;

the taking of other steps, which are envisaged by legislative acts and are connected with the defending of their rights.

2. For the defense of his right the author or another proprietary can appeal in accordance with established procedure to a court, an arbitral tribunal, or an arbitration court.

3. The court or the arbitral tribunal can deliver a judgment on the confiscation of illegally produced specimens of IMC's and of items that contain such IMC's, as well as of the materials and equipment, which are used for their production, and on their destruction or their transfer to the revenue of the republic budget of the Russian Federation or to the plaintiff at his request toward the compensation of the losses.

**Article 12. The Protection of the Rights to a Topology in Foreign Countries**

The author or another proprietary can ask for the legal protection of a topology in foreign countries.

The costs, which are connected with the obtaining of the legal protection of a topology in foreign countries, are borne by the person, who asks for such protection, or by an agreement with him by another natural or legal person.

**Article 13. The Rights of Foreign Natural and Legal Persons**

Foreign natural and legal persons enjoy the rights, which are stipulated by this Law, on the same basis as natural and legal persons of the Russian Federation by virtue of the international treaties of the Russian Federation or on the basis of the principle of reciprocity.

**Article 14. International Treaties**

If different rules than those contained in the Law are established by an international treaty of the Russian Federation, the rules of the international treaty are applied.

[Boxed item: The text of the Law is given in the reading that was adopted by the Supreme Soviet of Russia on 14 May 1992. In connection with this in the official text of the Law negligible editorial corrections are possible. The Law, we stress this, takes effect after the publication of the official text in ROSSIYSKAYA GAZETA and VEDOMOSTI VERKHOVNOGO SOVETA.]

**Commentary**

The published Law "On the Legal Protection of the Topology of Integrated Microcircuits" for the first time introduces the protection of this type of objects of intellectual property in our country. This Law is a part of the block of laws of the Russian Federation (RF) on the protection of objects of intellectual property, the passage of which is a deferred condition of the Soviet-American commercial treaty, which was signed in June 1990 and was ratified by the RF Supreme Soviet on 12 June 1992 (see Article 8 of this treaty).

The protection of the topologies of IMC's has been carried out at the level of national laws since 1984. The corresponding law was passed by the U.S. Congress on 8 November 1984. Then a similar law was passed in Japan in June 1985, which was due to the presence in the U.S. law of preferences for foreign applicants on the condition of the granting of preferences to American applicants in the legislation of the corresponding countries. In Europe the first law on the legal protection of the topologies of IMC's was passed in Sweden and was put into effect in April 1986. In the majority of other European countries the protection of topologies was introduced in 1987.

In the USSR work on the drafting of national legislation on the protection of the topologies of IMC's was begun in late 1986. An interdepartmental working group was set up under the former State Committee for Inventions and Discoveries. This group drew up the draft of the corresponding statute and ensured the active participation of representatives of the USSR in the drawing up of the draft of a multilateral international treaty within the World Intellectual Property Organization (WIPO). The text of the indicated treaty was signed at a diplomatic conference in Washington in May 1989. The Washington Treaty thus far has not taken effect, since it has not been ratified by the majority of developed countries, including the United States and Japan. The particular stand of these states is explained by the presence in the treaty of quite obvious one-sided advantages in favor of countries of the former third world.

This Law on the legal protection of the topologies of IMC's was drafted with allowance for previous drafts of national protective documents and as far as possible was harmonized with the corresponding legislation of the United States, Japan, and other countries. Such an approach to its drafting makes it possible to obtain preferences in accordance with the principle of reciprocity in the indicated countries, if the Washington Treaty is never ratified.

The terms and definitions, which are cited in Article 1 of the Law, for the most part were borrowed from the text of the Washington Treaty. The terms of the granting of protection (see Article 3) reflect the peculiarities of the legal protection of this object, which holds an intermediate position between objects of copyright and invention (patent) law. Point 3 of Article 3 of the Law to some degree is analogous to the criterion of a inventive level, while points 1, 2, and 4 of this article are essentially similar to the criteria that are used in the already published Law on the Legal Protection of Programs for Computers and Databases (that is, they are typical of objects of copyright law).

The published Law proceeds from the principle that the legal protection of the topologies of IMC's occurs regardless of the registration of the topology with the Russian Agency for the Legal Protection of Programs for Computers, Databases, and Topologies of Integrated Microcircuits (see Article 9 of the Law). Consequently, the

author (proprietary) of a topology, which has been developed for the first time, can be recognized as such, even if later an identical topology is registered in the name of another person. In case of a dispute between them the first (real) author or proprietary can prove his priority in court, having confirmed his rights by means of "a paper trail of development" or testimony.

It should also be borne in mind that the principle of "reverse engineering," which signifies the possibility of the development by different authors independent of each other of identical topologies, is applicable to the topologies of IMC's. Moreover, the mentioned authors in this case have the right to use their topologies without the infringement of the exclusive right of the other independent developer. Information on such a legal practice of the United States was published in 1989.

The transfer of the property rights to the topologies of IMC's is carried out only in accordance with a contract (see Articles 5 and 6). Here for so-called job-related works the property rights belong to the employer, not the author, if the contrary is not stipulated in the contract between them. In contrast to the norms of the Law on the Legal Protection of Programs for the topologies of IMC's there is additionally envisaged the case of the development of a topology under contract with a client (for example, in accordance with a state order), when the property rights from the start belong to the client, if not otherwise stipulated in the contract.

In the Law the registration with the agency of several types of contracts on the transfer of the property rights to a topology is also envisaged. First of all, this pertains to contracts on the full cession of property rights and to contracts that concern topologies that have been registered with the agency.

The other norms of the Law are analogous to the norms of the corresponding legislation of the United States and Japan, which makes it possible to avail oneself of the principle of reciprocity when Russian applicants ask for protection in the indicated countries.

In spite of the optional nature of the registration of topologies with the agency, the date of registration with the agency can be regarded as a right-forming factor, if such registration is carried out prior to the date of the first use of the topology for commercial purposes. This circumstance is explained by the fact that in this case the time of protection is counted from the date of registration with the agency.

On the basis of the example of the drafting and consideration in the Supreme Soviet of this Law it is also possible to illustrate clearly all the diversity of the present situation in the country in the area of lawmaking and activity concerning the application of rights.

On the one hand, none of the potential opponents objected in essence to the concept of the Law, which was adopted in the first reading (on 12 and 19 February 1992). There were also no remarks on the text of the first version of the Law, which was published in the journal VOPROSY IZOBRETATELSTVA, No 3-4, 1992. As was already said above, the passage of this legislative act is directly envisaged by Article 8 of the Commercial Treaty with the United States.

However, after the ratification of the treaty on 12 June and the trip of the president of the RF to the United States on 15-18 June, on 26 June 1992 a conclusion on the lack of conformity of this Law to Article 81-1 of the Constitution, which was published on 16 May 1992, was prepared in the Constitutional Law Administration (GPU) attached to the president. Similar conclusions were adopted with respect to the laws on the legal protection of programs for computers and the law on trademarks, service marks, and names of the place of origin of goods, while the laws themselves were returned on behalf to the president to the Supreme Soviet for reconsideration.

This point of view was published for the first time in the Russian press by Prof. V. Dozortsev in ROSSIYSKIYE VESTI for 19 June 1992. The essence of his proposals is: In connection with the fact that intellectual property is assigned in the Constitution to the joint jurisdiction of the Federation and the republics within it, for all objects of intellectual property it is necessary to draft not federal laws, but fundamentals of legislation. The text of the same Article 81-1 of the Constitution is advanced in this article as the only argument with regard to the essence of the dispute. Here the presence in the same Constitution of Article 72, in which the protection of intellectual property is assigned to the exclusive competence of the Federation on the territory of krays, oblasts, autonomous okrugs, the autonomous oblast, and the cities of Moscow and St. Petersburg, is ignored.

Moreover, my dear Professor Dozortsev absolutely did not take into account the practical circumstance that in itself the object of protection of the legislation on the legal protection of topologies on the territory of a good half of the republics within the Federation simply does not exist in connection with the fact that the corresponding scientific production establishments and enterprises for the production of microcircuits do not exist. To propose in this situation to draft the fundamentals of the corresponding legislation means to be five to 10 years ahead of the real situation!

If in addition we recall that the norms of legislation on the legal protection of the topologies of IMC's are not linked with the cultural and historical peculiarities of various states to such an extent that they are practically uniform (standardized) for all states of the world, the arguments about the unconstitutionality of the corresponding Russian federal law can cause only entirely comprehensible bewilderment. It seems that these purely legal arguments will not seem convincing to specialists in the area of microelectronics merely owing to their external logic, which does not take into account the realities of today.

The experience of drafting this law is also instructive in the sense of the old proverb that too many cooks spoil the broth. The draft of the law was drawn up by the Ministry of Science, the Higher School, and Technical Policy and was discussed in various ministries and committees of the Supreme Soviet. The leading Committee of the Supreme Soviet for Science and Public Education got agreement on it both with the Committee of the Supreme Soviet for Legislation and with the legal department of the Presidium of the Supreme Soviet. At various stages specialists of the Ministry of Justice, the Constitutional Law Administration, and the Russian Intellectual Property Agency attached to the president (RAIS) familiarized themselves with it.

And as a result of all this the Law was returned in accordance with the conclusion of the Constitutional Law Administration to the Supreme Soviet for reconsideration. Here it appears that the indicated administration does not see among its basic tasks in this matter the task of giving specific support to other bodies of government when defending the interests of the state and giving the utmost assistance to national industry in ensuring the protection of new objects of intellectual property. This conclusion suggests itself when analyzing the conclusion of the Constitutional Law Administration on this matter, in which no specific amendments to the text of the Law or the decree on putting it into effect are suggested. In essence no suggestions were also made in the process of the conferences on this matter in the Constitutional Law Administration and the Supreme Soviet.

It should be emphasized that the method of introducing fundamentals of legislation, which is proposed by V. Dozortsev, is not a panacea for another reason. For example, the Fundamentals of USSR Civil Legislation, which are being applied temporarily on the territory of the Russian Federation until the passage of a new civil code (in accordance with the Decree of the Russian Federation, which was published in ROSSIYSKAYA GAZETA on 24 July 1992), is not a legislative act of direct effect, including in the area of the topologies of IMC's, which are not even mentioned there among the protected objects. However, in the area of programs for computers and databases the Fundamentals also contain only a definition of the object of protection, which is completely inadequate for the practical realization of the legal relations that arise in this case.

## Commentary on New Law on Protecting Computer Programs, Databases

*927A0263A Moscow POISK in Russian No 28 (166), 4-10 Jul 92 p 7*

[Article under the rubric "Synthesis—Club KM": "The Law Exists! Is There a Law?"—first two paragraphs are POISK introduction]

[Text] The Law of the Russian Federation "On the Legal Protection of Computer Programs and Databases," which was passed not that long ago and has already taken effect, evoked a far from unambiguous reaction among the people whom it affected: programmers, businessmen, software users. The spread of the opinions is the maximum. From our perpetual "we approve" in several near-computer publications to the somber search in the law for traces and intrigues—again according to the old pattern—of western monopolies. What is more, even KM, which at one time supported the idea of combating boundless software piracy in our country, was condemned as an accomplice of "world imperialism."

What is seen behind the line of the law by the people, whom it is called upon to protect and whom it is called upon to help? We asked several specialists, who are outstanding in their field, to share their subjective opinion about the new legal act.

[Boxed item: A Line of the Law: "The copyright to computer programs and databases appears by virtue of their development."]

### Comments Are Required

Corresponding Member of the Russian Academy of Sciences Viktor Ivannikov, Head of a Division of the Institute of Problems of Cybernetics, Chairman of the Scientific Council for Programming

The new law should be regarded as a component of some system that provides the conditions for the progress of our society in information technologies. Patent law, ethical professional norms, the prestige of scientific research, and so forth are necessarily components of such a system.

Therefore, the law should, on the one hand, actively stimulate an interest in research and the development of programs and, on the other, not allow monopolism. Our society, it seems to me, has realized quite well the consequences of monopolism in science. I do not think that the consequences of state monopolism and the monopolism of corporations differ greatly. Progress is a consequence of keen competition.

In this connection the central sections of the new law are the very concept "program," as well as Article 3.5, which limits the framework of the application of the law:

"The legal protection, which is offered by this Law, does not apply to the ideas and principles, which are the basis for a computer program and database or any element of them, including the ideas and principles of the organization of an interface and an algorithm, as well as programming languages."

This article allows a multiplicity of interpretations. (It is obvious that it is practically impossible to design a law that contains absolutely no ambiguities, owing to the complexity of the objects that it handles. It is also natural that both this article and many others need numerous both official and unofficial comments. Otherwise both the essence of the law and its understanding can be significantly distorted.)

The problem is not far-fetched! A real example: AT&T is now trying to defend its sole right to UNIX interfaces. This is an example of monopolism that blocks competition and contradicts many advanced "ideas and principles," including open systems.

I would also like to note another threat to progress on the part of patent law. I will cite one example. In the United States IBM has patent 4,742,450, which protects "shareable copy-on-right segments." (This is a rather well-known and popular technique of multiple access to segments and files. It, in particular, is one of the basic ideas of the Mach operating system.) Thereby IBM potentially can lodge claims through the court against very many developers, including Mach. We will hope that our patent law will not copy American patent law.

The law will begin to take effect with full force and with all the consequences for "pirates" as of 1 January 1994. That is, the people, who use pirated copies of products or distribute such copies, will bear liability for illegal actions. This is good and timely. Practical experience in using this law will gradually form. But it is very dangerous if it will form under the influence of American (monopolistic) legal precedents. Precisely for this reason such a clear interpretation of the law, which is expedient for our society and would work in the interests of our progress, is needed now.

[Boxed item: A Line of the Law: "By a proprietary in this Law there are meant the author, his heirs, as well as any natural or legal persons, who have exclusive property rights that were obtained by virtue of the law or a contract."]

**Is Freedom Illegal?**

Sergey Kuznetsov, President of the Association of UNIX Users

In recent times we have been working very much and quite fruitfully with the international Free Software Foundation, which Richard Stallman—a real zealot of the establishment of banks of freely available software throughout the world—heads. After all, one must not think that the acquisition of programs for money is problematic only in our country. Many educational institutions and state and public organizations, which are engaged in some useful matters in foreign countries, at times also do not have sufficient assets for the constant updating of their software bank. The foundation of Stallman also supports them.

And Stallman, having learned about our law, was the first to become anxious. And when he had examined the text, he immediately contacted us via RELCOM: Before long, he said, you will not be left with an opportunity to work with free software. You will ask: Why did he decide that? Because his foundation has already invested much effort and assets in controversial processes of various types, in which firms dispute the competence of the activity of the FSF [Free Software Foundation] precisely in the area of interfaces. So the western frontiersmen have negative experience, and they decided to caution us against acquiring the same kind of experience.

But for us this is even more important. I as a programmer always felt so unprotected from a legal standpoint that, of course, I cannot but welcome the writing of the law. But at the same time I see that its putting into effect will entail a mass of problems, for the solution of which it will be necessary to write another large number of legal acts and addenda. In particular, the quickest settlement of the question, to whom do programs, which were developed by way of an official assignment, belong, seems extremely problematic to me. For the law has partially taken effect, but today no special points have been introduced in the contracts for the performance of work on the development of programs. But, as is known, our developers are devoting much effort and time precisely to contractual activity. To whom will their developments, which were completed under contract, belong?

[boxed item: A Line of the Law: "A natural or legal person, who does not satisfy the requirements of this Law with respect to the exclusive rights of the proprietaries, including importing to the Russian Federation copies of computer programs or databases, which were produced without the permission of their proprietaries, is a violator of the copyright."]

**Bit It Is All the Same to Me....**

Petr Brusilovskiy, Senior Scientific Associate of the International Center of Scientific and Technical Information

Of course, it would also have been possible to express myself a little more intellectually. But, it seems, it is possible to convey best of all precisely with such words my attitude toward the passage of this law. I will explain why.

We try so often and thoughtlessly to follow the example of western countries that at times we do not notice into what a trap we are driving ourselves. Of course, today an absurd situation with programs has formed in our country. Very nearly 90 percent of the users use in work only pirated copies of programs. But there they do not have another possibility! Whereas for the West the price of a software package can be low—as compared with income—in our country it is incompatible with the possibilities of the buyer. That is, while taking the path of the legalization of all deals on the dissemination of software, we are at the same time dealing a blow to our own intellectual—particularly programming—elite. Suppose that my firm—the MTsNTI [International Center of Scientific and Technical Information]—is still capable of officially acquiring a copy—although the situation, in case of which only one working copy of a program is considered "legal," may also become hard for us to overcome. But ponder whether many academic institutes, higher educational institutions, and even the prestigeous Moscow State University have such an opportunity. There is not enough money there for wages....

And another thing seems to me to be hard to overcome. This is the mechanism of the effects of the law. It appears to me to be a difficult thing to track down and catch all the pirated copies, as well as the people who disseminate them. And what is more, take into account that in the law it is constantly a question of precisely "commercial" piracy. That is, of those instances, when illegal products are disseminated exclusively for the sake of deriving a profit. But in our country, as I know, this is far from always the case....

In general, I am, of course, not opposed to the law itself. But I am not certain that it is backed by a sufficiently effective apparatus of inspection and execution. Without this the law, it appears, will turn into another declaration.

[Boxed item: A Line of the Law: "The release under one's own name of the computer program or database of someone else or the illegal reproduction or dissemination of such works entails criminal liability in accordance with the law."]

**The Right to Protection**

Leonid Malkov, Deputy General Director of the Paragraf Joint Venture, One of the Authors of the Law

First of all I want to dot all the i's. The rumors, gossip, and assumptions concerning the involvement ostensibly of some western monopolies in the writing of the law are nothing more than conjectures. The question of the protection of the rights to software was considered for the first time in connection with the passage of a package of documents on the protection of intellectual property back in May of last year, at that time there was still the USSR Supreme Soviet. And namely scientific circles and the Ministry of Science were the initiator of its drafting. And the fact that the members of the Association of Software Suppliers are saying much about it is correct, but is in no way connected with the idea of drafting this legal act.

Do our domestic software specialists really like it that much that any hacker can do what he wants with the work of a professional and sell what was created by difficult work as something of his own? I do not believe so!

It is another matter that the law has not yet become a norm of our life and is not perceived as something inherent to the civilized manner of conducting business. Not by chance is a kind of dissonance emerging in this matter. Whereas in the West laws are passed when it is necessary to secure by them some already formed situation, in our country the legal act becomes one that as if forms new relations in one sphere of activity or another.

Yes, we understand that the changeover to civilized means of doing business in the development and dissemination of software is difficult. That many, many of us do not have the means to acquire legal copies of products. But they do not acquit a thief on the basis of the fact that at the needed moment he did not have with himself the necessary amount of money.

It is important to thoroughly evaluate morally and ethically all cases of the unsanctioned dissemination of software. Regardless of who commits such acts: a large computer firm, a private hacker, or a state enterprise.

And another thing. In principle we, having passed the law, created some buffer conditions for the changeover to new relations. Liability for the use of illegal copies will begin in about two years. I think that although this time is little, it is sufficient to legalize our relations with the world of software.

For it requires protection.

## Fate of State System of S&T Information (GSNTI) Discussed

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[Article by Dmitriy Chereshkin and Mikhail Arapov, associates of the All-Russian Scientific Research Institute of Systems Research, under the rubric "Unnatural Selection": "How Are We To Transform the GSNTI?"—first paragraph is RADIKAL introduction]

[Text] The State System of Scientific and Technical Information (GSNTI), which exists in our country, is unique. It also does not have analogs in the world, like our Academy of Sciences, the Society for Knowledge, or, say, the former State Agroindustrial Committee. Today the question of what to do next with this gigantic system has faced our society in earnest.

**The Dinosaur Did Not Die...**

At the beginning of 1990 the GSNTI was a conglomerate of 10,500 information organizations of various levels and scientific and technical libraries, at which 136,000 people were employed. At these centers there were about 2 billion units of storage of reference information materials, they handled approximately 15 million inquiries and published several tens of thousands of publisher's sheets of various information materials.

Approximately two-thirds of the information potential of the GSNTI was concentrated on the territory of Russia, moreover, all the organs of the top level were in Moscow: the All-Union Institute of Scientific and Technical Information, which abstracts all the literature on the natural and technical sciences, which is published and is imported to the country (more than 1 million abstracts a year); the Institute of Scientific Information on Social Sciences, which handles literature on the social sciences; the Poisk Scientific Production Association, which ensures access to the world flow of patent literature; the All-Union Scientific and Technical Information Center, which gathers and stores all unpublished literature (reports and dissertations); and others. Large

libraries, such as the State Public Scientific and Technical Library, which have accumulated enormous collections of literature, without which the existence of the system of higher education and any scientific life whatsoever are impossible, are also a part of this system.

The received information was processed slowly. Only 30 months after the appearance of an issue of a foreign journal was it possible to find an abstract of an article published in it in the domestic database.

The user received from the service what it considered it necessary to give him. In the West the thin "streams" of information, which has been prepared by specialized centers, merge at information middlemen, who are always willing on a commercial basis to deliver to the end user data on any aspect of a problem that interests him. In our country even if there was information, no one was interested in its integration.

The scientific and technical information service assimilated new technologies extremely slowly. Even such a most simple service by western standards as the xeroxing of several pages of a scientific journal on the greater part of the territory of the country either was inaccessible or one had to wait for it for several weeks to several months. The introduction of the system of remote access to databases went on for 10 years, but the matter never went farther than a state which by modern standards it is possible only to call timid experiments.

But there is also another aspect of the matter. First, in its own way the system of the GSNTI was rather efficient. Although slowly and with large losses, it got the world flow of information to 1.5 scientists and science teachers. After all, on the average three or four copies of foreign scientific journals and one or two copies of books entered the country, and without the system an overwhelming number of these people would never have known what is printed in these publications.

A long way from the capitals without the system of scientific and technical information it will simply be impossible to engage in scientific work. Without access to libraries and without an opportunity if only to "spy" on the world scientific process through the keyhole of REFERATIVNYY ZHURNAL outlying science is doomed to ruin (it is another question whether this loss will be that big).

It is necessary to say that people noted the effectiveness of the GSNTI more often abroad than in our homeland. Given very impressive outlays the Americans never succeeded in setting up the tracking of the flow of scientific literature that is published outside the Anglo-Saxon cultural area. The idea of "an All-Union Institute of Scientific and Technical Information on the Potomac" was discussed in the United States for a very long time, but the Americans were never able to overcome their aversion for gigantic institutions that exist on the money of the taxpayer.

Second, the scientific and technical information system shaped the user of information. In the USSR there was no and could be no natural demand for information as a factor that provides the user with additional changes in the competitive struggle. Information organs transmitted their actually free product through the chain and, roughly speaking, pushed it under the nose of the user. We created among specialists in the country the habit of information in approximately the same way that in the 18th century Petr I formed the first generation of smokers and Yekaterina II formed the first generation of potato eaters.

**...But Is Also Not Alive**

Today the system of the GSNTI is in a state which is close to death agony. A number of the causes of this are of an external nature and are connected with the economic crisis that the country is going through: Given an average price of one scientific book of $60-70 and a cost of a year's subscription to a professional journal, which has topped $150, it is becoming too difficult a task to maintain imports even at the former, completely inadequate level. But this is a most important task, inasmuch as the USSR never generated more than 7-8 percent of the world flow of information, while it should have imported more than 90 percent.

The price for paper and printing services has increased sharply. Finally, it is necessary to feed information workers. The starting level of the wage was such a low one that, even while increasing it, it is now difficult to keep the most valuable workers in the system.

Under these conditions the actually free distribution of the information processed by the GSNTI, which was practiced until now, is no longer possible. But information is not tobacco, and it appears that the first generation of users is not willing to pay for it as much as it is worth.

Perhaps, soon an effective demand for information for information will appear on the part of commercial structures and organs of administration, it will even increase with the stabilization of the economic situation. But this will be a demand for comprehensive information about the prospects of the investment of capital, about the socioeconomic situation, about new technologies and sales markets. In short, for information for decentralized decision making.

For the essence of the market lies precisely in the decentralization of the making of economic decisions. The scientific and technical information system released information for the specialist, whom they did not allow anywhere near decision making.

Here we are proceeding to the internal causes of the crisis of the system. This system was established for the assurance of scientific and technical progress. Whatever goals of this progress were proclaimed (the increase of well-being, the strengthening of the defensive capability, and so on), it actually became long ago an end in itself.

And even if we wanted to continue the game of progress for the sake of progress, we do not have the assets for this. With the exception of the limited sphere of basic science, education, and culture we will now have to ask ourselves when planning every step whether a solvent client will be found for the anticipated results.

**Although It Is Thinking About the Meaning of Life**

In the immediate future the results of the search for a meaning of existence obviously will not lead the scientific and technical information system to any new magical formula like "scientific and technical progress." There is needed today not a formula, but explicit, clear rules of behavior of the participants in the information process in the new and rapidly changing economic situation. A preliminary, draft version of such rules was drawn up by a group of experts on the order of the RF [Russian Federation] Ministry of Science, the Higher School, and Technical Policy in the document entitled "The Formulation of State Policy in the Area of the Production and Use of Information Resources and a Program of the Modernization of the Scientific and Technical Information System."

Experts insist that today there is no hope for a slow, evolutionary means of adapting the scientific and technical information system to the new conditions. To save what it is possible and necessary to save from the GSNTI, it is necessary to make purposeful, conscious efforts immediately. These steps should be well thought out, since there will no longer be time for a second try: The system will fall into a state of collapse. The following approach has been proposed.

First, the management of the scientific and technical information system should be concentrated in the Administration of Information of the RF Ministry of Science, the Higher School, and Technical Policy. It is advisable to assign to the same organ the coordination of the activity on the production of all types of information resources in Russia.

At first it seems that this is an impossible task. Indeed, a single organ, which would accomplish such a task, thus far has not existed. In the former State Committee for Science and Technology there was a structural subdivision that managed the scientific and technical information system, but it did not succeed too well even with this.

But today it is also impossible to manage the scientific and technical information system by the methods that the State Committee for Science and Technology used. In a market economy there cannot be either a stable list of information centers—they will appear, disappear, and change form of ownership—or the strict division of functions among them—competition will upset this division. It will also be impossible to maintain the whimsical boundary between scientific and technical information and other types of information: In striving to increase their profit, information organs will inevitable violate it.

It is expedient that one organ of management would be responsible for the implementation of a unified state policy in the area of the production and use of all information resource, no matter at what enterprises these resources are produced and used. Of course, the content of management should also be different. This should be the process of the elaboration and application of objective criteria of the evaluation of the produced resources, norms of their use, procedures and standards of the behavior of the producers and users of information, and not the alternation of whip cracking and distribution.

Along with the task of producing information resources there exists another one, which in many respects does not depend on it. This is the task of developing information technologies, without which it is impossible to produce and to use the produced information resources. But but there will be information technologies, if there are computer hardware, data links, data communication protocols, and so on. It would be advisable to assign the coordination of the efforts in this area to Roskominform, having obliged both organs—Roskominform and the Administration of Information—to pursue a coordinated policy wherever they have common interests.

Second, it is necessary to give information management organs funds to stimulate the demand for information. World experience shows that without the artificially organized transfer of assets from other sectors of the national economy to the information sector the latter will not be able to survive. The nature of information as a commodity is such that only a small part of the information sector can be developed on a purely commercial basis.

It would be possible simply to take by means of the tax mechanism the valuable assets of the users of information and to turn them over to information organs. In individual cases for the present it will not be possible to dispense with direct budget financing, but the overall approach should be different. It is necessary to give money not to the producers, but to the users of information. And it is desirable not to give, but to permit to spend on the acquisition of information what in other cases would have to be turned over to the state in the form of a tax. The user in this case obtains the opportunity to decide what information he needs and at what price and from what information center he will buy it (if he will buy it at all). The changeover to the indirect financing of the information system will make it possible to preserve its basis—the user.

Here it is not necessary to stimulate all users identically. The support should be differentiated subject to whether the information is used in the sphere of culture, education, and science or in management, in entrepreneurial activity.

State organs have not only to establish the amounts of the tax deductions, but also to have clear criteria, on the basis of which it would be possible to judge whether what

was bought is actually information. It is natural that the criteria of the establishment of tax deductions cannot depend on whether the information was produced at some information centers or others. The use of information resources should be stimulated, here their form and source make no difference. This is another argument in favor of the fact that it is necessary to manage the production of these resources from one center.

It is necessary to support the producers of information directly when it is a matter of the conducting of scientific research, the marketing of new products and services, and the study and development of new markets. And in this case it is better for the government not to give the necessary assets to the producer directly, but to distribute them on a competitive basis through a system of specialized funds.

Third, in addition to the mechanism of the stimulation of the use of information, the system of guarantees for information organs should become a tool of management. State policy in the area of information should be based on the fact that any guarantees should be granted for a specific period, on the condition of monitoring, and in exchange for specific commitments. The guarantees can have the form of an economic and legal status of the information organ.

**What There Is as a Result**

It is necessary to grant the status of a cultural center to the information organs, which have the means and want to render mass information services to the population and to promote the spreading of culture and education. The state guarantees the information organ, which has received this status, direct budget financing. In contrast to the present budget-carried organizations it is necessary to give cultural centers the right to seek for themselves any other sources of financing: funds, international organizations, the church, and so on. Any independent economic activity of cultural centers, which is aimed at the derivation of a profit, is excluded or is strictly limited.

First of all libraries should receive the status of a cultural center. Perhaps, archives should. Today only the state can pay for the maintenance of their collectives and premises and the other outlays that are connected with making traditionally free services available to the mass user.

It is necessary to grant the privileged status of a nonprofit enterprise to the information centers, which agree to and have the opportunity to produce complex information products that are intended for science, education, and the solution of management problems. This status implies a low level of taxation, minimum rates for state credits, and preferences in the obtaining of support from funds (grants).

The enterprise, which has received the status of a nonprofit enterprise, in exchange for the granted guarantees gives up part of its economic independence: It can spend the derived profit exclusively for the purposes of its development. If such an enterprise has the form of a joint-stock company, its stockholders can count not on a part of its profit, but on its product, without which they cannot manage in their activity.

There should most likely become the shareholders of large information centers, such as the All-Russian Institute of Scientific and Technical Information or Poisk, the main users of their products: institutes of the Russian Academy of Sciences, large design bureaus, funds that support science and education, and foreign scientific organizations.

Finally, the information centers, which have not received a privileged status, become ordinary commercial structures. It is not ruled out that some of them will not be able to be preserved as integral formations, they will have to be split up or their specialization will have to be changed.

Thus, state policy in the area of information, in the opinion of experts of the Ministry of Science, the Higher School, and Technical Policy, should be aimed at:

- the stimulation of the use of information through a system of tax breaks;
- the preservation of the functions of the information system, which are vitally important and are being slowly restored, first of all those functions that are connected with the spreading of education and the support of culture;
- the creation of the conditions for the adaptation of information organs to the new needs of science and industry;
- the preservation of the community of information workers through the state support of the program of scientific research in the area of information, the support of specialized education, and so forth.

## Text of Law in Protection of Programs, Computers, Databases

*927A0257 Moscow RADIKAL in Russian No 27 (84), Jul 92 p 14*

[Text of law, with procedure for enactment stipulated by R. Khasbulatov, chairman of the Supreme Soviet of the Russian Federation, with commentary by Igor Krylov, under the rubric "Documents": "Law of the Russian Federation 'On the Legal Protection of Programs for Computers and Databases"; first paragraph is source introduction]

[Text] **The text of the Law is given here in the edited version adopted by the Supreme Soviet of Russia. As a result, the official text of the Law may have minor corrections. The Law takes effect after the publication of the official text in the ROSSIYSKAYA GAZETA and the "Vedemosti Verkhovogo Soveta."**

## Chapter 1. General Positions

### Article 1. Main Concepts

1. The main concepts applied in this law are as follows:

Computer program—a formal form of presentation of an aggregate of data and commands designed for the functioning of computers and other computer devices in order to produce a given result. A computer program is also taken to mean the preparatory materials produced in the course of the program's development and the audiovisual images generated by it.

Database—a formal form of presentation and organization of an aggregate of data (articles or calculations, for example) that are systematized in such a manner that the data can be found and processed with a computer.

Computer or database program adaptation—the implementation of changes made exclusively for the purpose of ensuring the functioning of the computer or database program on specific user hardware or under the control of specific user programs.

Computer or database program modification (revision)—any program changes that are not adaptation.

Decompilation of computer program—a technical method that includes converting an object code into a source text for the purpose of studying the structure and coding of a computer program.

Reproduction of computer or database program—the production of one or more copies of a computer or database program in any material form, as well as recording them in computer memory.

Dissemination of computer or database programs—the presentation of access to computer or database programs reproduced in any material form, such presentation including by network or other method, as well as by means of selling, hiring out, renting, or loaning, to include import for any of those purposes.

Release (publication) of computer or database programs—the presentation of copies of computer or database programs, with agreement from the author, for an indeterminate circle of persons (including by means of recording to memory or releasing a printed text), on the condition that that quantity of copies should meet the needs of the circle of persons, given the nature of the works indicated.

Use of computer or database programs—the release, reproduction, dissemination, or other action taken to put the programs into economic circulation (including in modified form). The transmission via mass media of reports on released computer or database programs is not considered to be use of computer programs.

2. By "rights holder" [pravoovladatel] in this Law is meant the author and his heirs, as well as any physical or legal persons who have exclusive property rights obtained by law or contract.

### Article 2. Relations Regulated by This Law

1. This Law regulates the relations associated with the creation, legal protection, and use of computer or database programs.

2. Computer or database programs, according to this Law, are copyright objects. Computer programs enjoy legal protection as literary works, and database programs enjoy legal protection as collections.

### Article 3. Object of legal protection

1. Copyright is extended to any computer or database programs, released or unreleased, that are presented in formal form, regardless of their material carrier, purpose, or merit.

2. Copyright is extended to programs for computers or databases that are the result of the creation by the author. The originality of the work of the author is presumed until proven otherwise.

3. The legal protection provided by this Law extends to all types of computer programs (including operating systems and program complexes), which can be in any language or any form, including source text and object code.

4. The legal protection provided by this Law extends to databases that are the result of original work involving selection and organization of data. Databases are protected, regardless of whether the data on which they are based or the data which they include are copyright objects.

5. The legal protection provided by this Law does not extend to ideas or principles underlying a computer or database program or any of its elements, to include ideas and principles associated with the organization of interface and algorithm or with programming language.

6. Computer or database program copyright is not associated with right of ownership of the program's material carrier. No transfer of material-carrier rights involves transfer of any of the author's legal rights to the computer or database program.

### Article 4. Conditions for Notification of Copyright

1. The copyright for a computer or database program originates when the program is created. Notification and execution of the copyright for a computer or database program does not require filing, registering, or any other formality.

2. To announce his rights, the rights holder can, beginning with the first release of his computer or database program, use a copyright protection symbol consisting of three elements:

the letter "C," enclosed in a circle or in parentheses

the name of the rights holder

the year of the first release of the work

### Article 5. Database Copyright

1. The copyright for a database that consists of materials that are not copyright objects belongs to the persons who created the database.

2. The copyright for a database is acknowledged if the copyright for each of the works included in the database is observed.

3. The copyright for each of the works included in the database is preserved. Those works can be used independent of the database.

4. A copyright for a database does not prevent other persons from independently selecting and organizing the works and materials that go into that database.

### Article 6. Copyright Duration

1. A copyright takes effect for a computer or database program from the moment of its creation and lasts the life of the author plus 50 years after his death, starting 1 January of the year following the year of his death.

2. The end of a copyright for computer or database programs created by more than one person is reckoned on the basis of the time of death of the last author to survive the others.

3. The copyright for a computer or database program released anonymously or under a pseudonym takes effect the moment it is released and lasts for 50 years. If the author of a computer or database program that is released anonymously or under a pseudonym reveals his identity during that 50-year period or if the pseudonym taken by the author leaves no doubt as to his identity, then the duration of protection specified in Item 1 of this article applies.

4. The individual rights of the author to the computer or database program are protected permanently.

### Article 7. Sphere of Action of This Law

The copyright for a computer or database program that is first released in the Russian Federation or is not released, but remains within its borders in some formal form, is valid for the territory of the Russian Federation. It is recognized for the author, his heirs, and other assignees of the author, regardless of their citizenship.

The copyright is also recognized for citizens of the Russian Federation whose computer or database program is or exists in some formal form within the borders of a foreign state, as well as for their assignees.

For other persons, the copyright for a computer or database program that is first released or that exists in some formal form within the borders of a foreign state is recognized in accordance with international treaties with the Russian Federation.

## Chapter 2. Exclusive Copyrights

### Article 8. Authorship

1. The author of a computer or database program is the physical person whose original work resulted in the creation of the program.

If a computer or database program is created by the joint, original work of two or more physical people, then, regardless of whether the computer or database program consists of parts each of which have independent significance or whether it is indivisible, each of the people is considered the author of the computer or database program.

2. If the parts of the computer or database program have independent significance, each of the authors has right of authorship to the part he created.

### Article 9. Individual Rights

The author of a computer or database program, regardless of his property rights, has the following individual rights:

right of authorship, that is, the right to be considered the author of the computer or database program

name rights, that is, the right to determine how the author's name will be indicated in the computer or database program: under his name, under another name (a pseudonym), or anonymously

right of inviolability (wholeness), that is, the right to protection of the computer or database program itself and its name from any kind of distortion or other infringement that could do harm to the honor and dignity of the author

### Article 10. Property Rights

The author of the computer or database program and any other rights holder have the exclusive right to perform and/or allow the performance of the following:

release the computer or database program

reproduce the computer or database program (partially or in its entirety) in any form or by any means

disseminate the computer or database program

modify the computer or database program, including convert the computer or database program from one language to another

make any other use of the computer or database program

### Article 11. Transfer of Property Rights

1. Property rights for a computer or database program can be transferred entirely or partially to other physical or legal persons by contract.

The contract must be in written form and must establish the following essential conditions: the volume and

methods of use of the computer or database program, the terms and size of payment, and the duration of the contract.

2. Property rights for a computer or database program are transferred to heirs in the manner established by law.

### Article 12. Property Rights for Computer or Database Programs Created While One is Performing Job-Related Duties

1. The property rights for a computer or database program created while one is performing job-related duties or as a result of assignment by an employer belong to the employer, unless specified otherwise in a contract between the employer and the author.

2. The terms and size of payment are established in the contract between the author and the employer.

### Article 13. Registration Rights

1. The holder of all the property rights for a computer or database program, if he wishes, can, during the copyright period, register the program either directly or through his representative by filing an application with the Russian Agency for the Legal Protection of Computer or Database Programs and Integrated Microcircuit Topologies (henceforth called the Agency).

2. The application for the official registration (henceforth called the registration application) of the computer or database program must pertain to one computer program or one database program.

The registration application must contain the following:

announcement of official registration of computer or database program, with indication of rights holder, as well as author, if he doesn't object to being mentioned as such, and their location (place of residence)

materials being submitted and identifying the computer or database program, to include an abstract

document verifying payment of the registration fee in the proper amount or providing reasons for full or partial waiver of payment of the fee

The Agency determines the regulations for the application documentation.

3. After the application for registration has been made, the Agency checks to see that all the necessary documents have been filed and that they meet the requirements given in Item 2 of this article. If everything has been filed properly, the Agency incorporates the computer or database program into the Register of Computer Programs or the Register of Databases, issues the applicant a certificate of official registration, and publishes the information about the registered computer or database programs in the official bulletin of the Agency.

The applicant, at the request of the Agency or on his own initiative, has the right to add, clarify, or correct the application materials before the information is published in the official bulletin.

4. The Agency determines the procedure for official registration, the forms of certificates of official registration, and the composition of the data indicated in them. The Agency also determines the contents of the information to be published in the official bulletin.

5. A contract involving full concession of all property rights for the registered computer or database program must be registered with the Agency.

Contracts involving the transfer of property rights for the computer or database program may be registered with the Agency upon agreement by the parties.

6. The information inserted in the Register of Programs or the Register of Databases is considered reliable until proven otherwise.

The applicant bears the responsibility for the reliability of that information.

7. Registration fees are collected for the official registration of computer or database programs and contracts and for the publication of the information.

The government of the Russian Federation determines the amount and terms of the payment of the registration fees, as well as the acceptable reasons for full or partial waiver of the fees.

## Chapter 3. Use of Computer or Database Programs

### Article 14. Use of Computer or Database Programs by Contract With the Rights Holder

1. Use of computer or database programs by third parties (users) proceeds on the basis of a contract with the rights holder, except in cases indicated in Article 16 of this Law.

2. A contract for the use of a computer or database program must be in written form.

3. In the sale of computer or database programs to a mass user or when access to them is given to a mass user, a special procedure for making contracts is acceptable, e.g., spelling out standard conditions of the contract on copies of the computer or database programs being transferred.

### Article 15. Free Reproduction and Adaptation of Computer or Database Programs

1. A person who is in legal possession of a copy of a computer or database program has the right, without obtaining any further permission from the rights holder, to perform any actions associated with the functioning of the computer or database program in line with its purpose, to include recording and storing it in computer memory and correcting any obvious errors. The recording and storing in computer memory is permitted

for one computer or one user in a network, unless otherwise specified in the contract with the rights holder.

2. As an exception of the third paragraph of Article 10 of this Law, a person who is in legal possession a copy of a computer or database program has the right to do the following without the rights holder's agreement and without making any additional compensation:

adapt the computer or database program

to make or have someone else make a copy of a computer or database program if that copy is meant for archival purposes only or, if need be (in the event that the original computer or database program is lost or destroyed or becomes unusable), to replace a legally obtained copy

A copy of a computer or database program cannot be used for purposes other than those indicated above and must be destroyed if further use of that program ceases to be legal.

3. A person who is in legal possession of a computer or database program has a right to decompile or have someone else decompile a computer program in order to study the coding and structure of the program, without the rights holder's agreement and without making additional compensation, if the following conditions exist:

the information needed for the interaction between a computer program developed independently by the person and another program cannot be obtained from other sources

the information obtained as a result of the decompilation can be used only for setting up an interaction between the computer program developed independently by the person and another program, and not for comparison of a new computer program that is very similar to the decompiled program or for anything else that would infringe the copyright

decompilation is done only to those parts of the computer program that are needed to set up such an interaction

### Article 16. Free Re-Sale of a Copy of a Computer or Database Program

Re-sale or transfer by other method of the right of ownership or other property rights pertaining to a copy of a computer or database program is permitted without the rights holder's agreement and without further compensation to him after the first sale or other transfer of the right of ownership for that copy.

## Chapter 4. Protection of Rights

### Article 17. Copyright Infringement. Illegal Copies of Computer or Database Programs

1. A physical or legal person who does not comply with the requirements of this Law with regard to the exclusive rights of rights holders, to include the import into the Russian Federation of copies of computer or database programs made without the permission of rights holders, is a copyright violator.

2. Copies of computer or database programs whose production or use involves infringement of copyright are considered illegal.

3. Also considered illegal are copies of a computer or database program protected in the Russian Federation in accordance with this Law that are brought into the Russian Federation from a state in which that computer or database program was never protected or ceased to be protected.

### Article 18. Protection of Rights Pertaining to Computer or Database Programs

1. The author of a computer or database program and other rights holders have a right to require the following:

that their rights be announced

that the situation existing before violation of the law be restored and that actions that violate the law or threaten violation of the law be ceased

that the losses caused be replaced in an amount that includes the sum of the revenues received by the violator

that, in cases of violation for the purpose of deriving profits, the violator, instead of reimbursing losses, be made to compensate [the rights holder] an amount that is 5,000-fold to 50,000-fold greater than the minimum monthly wage established by Law, with the compensation amount to be determined by a court of law, court of arbitration, or arbitration tribunal

in addition to reimbursement and compensation, the court of arbitration or the court of law can exact a fine in the amount of 10 percent of the sum awarded by the court to the plaintiff, to go to the republic budget of the Russian Federation

that other measures specified by legislative acts and associated with the protection of their rights be implemented

2. Rights holders can turn to a court of law, a court of arbitration, or an arbitration tribunal for protection of their rights.

3. A court of law or a court of arbitration can decide to confiscate the illegal copies of the computer or database programs, as well as the materials and equipment used for reproducing it, and destroy them or transfer them to the receipts of the republic budget of the Russian Federation, or to the plaintiff, at his request, to replace his losses.

### Article 19. Confiscation of Illegal Copies of Computer or Database Programs

Copies of computer or database programs made, reproduced, disseminated, sold, imported, or otherwise used

or intended for use in violation of the rights of authors or other rights holders of the computer or database programs can be confiscated in the manner established by law.

**Article 20. Other Forms of Liability**

The release under one's own name of someone else's computer or database program or the illegal reproduction or dissemination of such reproductions carries criminal penalties in accordance with the Law.

**Procedure for Enacting the Law of the Russian Federation 'On the Legal Protection of Programs for Computers and Databases'**

The Supreme Soviet of the Russian Federation decrees the following:

1. The Law of the Russian Federation "On the Legal Protection of Programs for Computers and Databases" is to be effective from the day of its publication.

2. Until the legislation of the Russian Federation is brought into compliance with the Law of the Russian Federation "On the Legal Protection of Programs for Computers and Databases," it will be applied only insofar as it does not conflict with this Law.

3. The Law of the Russian Federation "On the Legal Protection of Programs for Computers and Databases" extends to relations associated with the creation and use of computer or database programs that come about after the enactment of this Law.

4. It is established that until 1 January 1994, in the Russian Federation, the nonprofit use of computer or database programs released (published) before this Law takes effect, for research, training-and-education, and personal purposes, is permitted without the agreement of the author (rights holder) and without compensation paid to him.

5. The government of the Russian Federation will do the following:

before 1 October 1992, introduce in the specified manner, for the consideration of the Russian Federation Supreme Soviet, drafts of Russian Federation laws on the introduction of changes and additions to the RSFSR Civil Code and the RSFSR Criminal Code, as well as other legislative acts associated with issues involving the legal protection of computer or database programs

before 1 January 1993, bring the resolution of the Russian Federation government into compliance with the Law of the Russian Federation "On the Legal Protection of Programs for Computers and Databases"

before 1 January 1993, effect the revision and abolition by ministries, state committees, departments, and other organizations of the Russian Federation of their enforceable enactments, including instructions that conflict with this Law

specify in the republic budget of the Russian Federation, beginning with 1992, all the necessary types of expenditures in accordance with this Law

6. The Russian Federation Supreme Soviet Committee on Science and Public Education, along with the State Patent Agency of the Russian Federation, is commissioned to summarize the work done in connection with the application of this Law and to report on the results to the Russian Federation Supreme Soviet before 1 January 1994.

[Signed] R. Khasbulatov, Chairman of the Russian Federation Supreme Soviet

**Commentary**

The law "On the Legal Protection of Programs for Computers and Databases" that is printed here is the first to introduce legal protection for this most important object of intellectual property. As in most of the industrially developed countries of the world, the law classifies software as an object protected by copyright (Article 2, Item 2).

Computer programs were first classified as objects protected by copyright, in accordance with Article 134, Item 2, of "The Bases of Civil Law of the Union of Soviet Socialist Republics and Its Republics." However, "The Bases..." did not contain any more-specific legal norms enabling protection against infringement of the rights of the author or holder of the program, and the subsequent breakup of the USSR did not allow it to take effect.

The new Russian law establishes a rather well-thought-out, reliable system of protection of copyright and property rights for the creators and owners of software products.

It should be noted above all that the procedure introduced by the law for registering computer or database programs is not obligatory (it is optional), and the copyright for a computer or database program comes about by virtue of its creation, regardless of whether it is registered (Article 4, Item 1). Therein lies the fundamental difference between objects protected by copyright and objects protected by patent law (inventions, for example, or industrial designs, or trademarks), for which the origination of property rights requires that criteria of patentability be met and attested to by a decision of the state patent expert council and the appropriate protective document.

However, a full concession of property rights requires both registration of the contract involving the concession of rights and registration of the program itself in the recently created Russian Agency for the Legal Protection of Computer or Database Programs and Integrated Microcircuit Topologies (at present, a structural subdivision of Rospatent).

In addition, a certificate of registration of the program or database is required inasmuch as it would be needed in

the event of any court examinations or the determination of the rights of the author or owner of a program. In accordance with Article 13, Item 6, responsibility for the reliability of the information given when the program is registered is borne by the applicant (i.e., an unofficial system is established for registering programs without the Agency conducting any expert evaluation), and the expert evaluation of the lawfulness of the registration of the program resides in the competence of the court.

Two important practical conclusions follow from the unofficial system for registering programs and databases with the Agency.

First, a developer or owner of a software product would be interested in registering the product with the Agency as soon as possible, inasmuch as the date of issue by the Agency of a certificate of registration would have important legal significance from the standpoint of establishing [copyright] priority. Second, before registration, an applicant is obliged to conduct a preliminary evaluation of the novelty and originality of the software product being registered with the Agency. In the absence of any kind of evaluation, the validity of the registration certificate issued by the Agency is next to nil.

One can see ahead of time a multitude of court battles associated with the issuance by the Agency of registration certificates for one and the same software product to two or more legal or physical persons. At the same time, it is well known that, in terms of level of qualifications, the judicial body of Russia (as in other former Union republics) is absolutely unprepared to examine disputes involving the infringement of rights to inventions, industrial designs, trademarks, software, or other objects of intellectual property.

In a word, before getting into any court battle involving infringement of rights to a computer or database program, the plaintiff should be firmly convinced of the soundness of his claims. Especially since Article 18 of the law establishes severe monetary compensation penalties for reproduction with intent to make a profit and infringement of the rights of authors and owners of software—from 5,000 to 50,000 times the minimum wage (at present, that amounts to 4.5 million rubles to 45 million rubles). Such large amounts of compensation would seem to be sobering to the many violators here who sell and resell the software of leading foreign computer firms without having the proper licenses to do so.

The enactment of the Law should be accompanied by the packet of legally binding documents in the development stage at the Agency at this time. Among those documents are the following: a government decree on the size of the registration fee (preliminary estimates put the sum at 1,000 rubles for a legal person, and 500 rubles for a physical person); regulations for the filing and examination of an application for registration of a computer or database program; drafts of standard contracts between programmers and employers.

[Signed] Igor Krylov, docent at IPKIR [not further expanded]

## Supreme Soviet Patent Legislation Efforts Defended

*927A0232A Moscow DELOVOY MIR in Russian 20 Jun 92 p 7*

[Article by Valeriy Mamayev, inventor, patent specialist; date and place unknown: "Hara Kiri, Or Who is Attacking the Reform and Its Government, How, and Why"]

[Text] **Among the responses to the article by Moisey Gelman, inventor and candidate of technical sciences, "Second Line of Defense—From the Market and Inventors" (DM, 10 June 1992), a letter by patent specialist and inventor V. Mamayev, member of the Russian parliament work group which developed the draft Law on Discoveries, Inventions, and Rationalization Proposals, which particularly intersects the Patent Law mentioned in the article, is singled out especially. The letter cites the first point of Article 1 of the draft law ("This Law is being implemented taking into account the moral and ecological imperative of of contemporary society—the regulation of organizational, labor, and personal non-property and related property relations, arising in connection with discoveries, inventions, and rationalization proposals, created, declared, or used in the Russian Federation. The Law counted on the regulation of relations both under conditions of the market transition period, occurring against the background of the comprehensive crisis of Russian society in the 1990s, as well as in a society which has left this period and progressed toward the ecological and economic scenario of life, the only scenario possible in the 21st century") and arguments supporting the need for serious commentaries on our publication. We offer the first of the commentaries to our readers.**

The article in question speaks of the POSSIBLE CONSEQUENCES of the passing by the Russian parliament of the Patent Law, drafted by the union nomenclature, leaving in the shadows other equally tragic and already IMMINENT CONSEQUENCES, knowledge of which, in my opinion, will help to avert catastrophe. The point is that Russia is already feeling the consequences of a similar undertaking to sew a strait-jacket for its inventors with a patent uniform modeled after that of the early KhUP [expansion unknown] century. The press most often viewed this old undertaking of the nomenclature's as just an attack against poor Soviet inventors, as discrimination against the authors of promising inventions, and as the deprivation of Soviet inventors of their first right, the right to choose the form for protecting the result of their creativity. There are enough such arguments to give this undertaking up for lost. Nonetheless, other arguments also exist.

Despite the fact that the development of the Union law on inventions started in 1977, the most intensive events occurred after 1985, when the country's leaders finally realized that the basis of all our troubles, including problems with domestic invention work, was the fundamentally false concept of society's economic development. No sooner than we switched from restructuring words to deeds, invention activity grew rapidly, despite the supposedly most profoundly conservative legislation on inventions. However, it then began to drop sharply. What happened?

For more than half a century, virtually all domestic inventions were essentially requisitioned with the help of the authorship certificate, in which the administrative-command system (AKS) had inserted a confiscatory legal content. Therefore, as well as for the reason of the complete disinterest of state enterprises in any innovations, the basic market for inventions was abroad. Since the authors were unable to leave, the AKS was "forced" to take upon itself the sale of this most valuable commodity for hard currency. A few kopeks were delivered to the inventors. However, as soon as the interference of the AKS in the economy began to weaken, the competent structure of legislation (incidentally, existing in Russia to this day!), based on the right existing since 1931 to choose the form of protection of inventions (with patents or authorship certificates), provided a real opportunity to lift inventions away from requisition by protecting them with patents. Whereas before only a handful had managed to challenge the AKS, in 1988-1989 there were already hundreds of them, and in 1990—thousands.

In economic terms, this meant that a domestic market for inventions began to form roughly since 1986, and in legal terms, that the previous structure of the legislation was made capable of working not only in the transition period of the 1930s, when we always walked away from the market, it seemed, but also in the current transition period toward the market. However, so that the legislation itself be competent and capable of working, it sufficed to correct the legal content of the second protective document, namely quickly to destatify the authorship certificate and prohibit the use of an invention protected by it without the author's permission. On the one hand, there is this, and on the other, there is ruling out the possibility of a "dog in the hay" situation for those who choose the new protective document.

Since as a result of Gorbachev's perestroyka only the well-off have managed to save inventions from the AKS, the AKS all the same has kept a large part of the hard currency. Therefore, the Union nomenclature, incidentally having completely filled up the Russian administrative structures today, was faced with a dilemma: If you make the corrections, as indicated, you lose everything, plus you accelerate the growth of an intra-union market and strengthen restructuring; yet if you do nothing and waste time, you lose little in immediate hard currency, and in the prospective future you gain the former secure parasitism for yourself. This is because failure to correct the legislation is a serious hindrance to restructuring, and for this reason it will actively contribute to worsening the country's economic situation. Then later, having heaped all the blame on the democrats, it will be

possible to seek revenge seriously and to foist any law on parliament, finding itself in a dead-end situation.

Three and a half years of doing nothing have not gone in vain. Statistics have clearly established the success of the "the worse, the better" policy: In 1989 the indicator for use of inventions decreased to the level of the 1970s, and the activeness of inventors dropped by 15 percent compared to 1988. A year later the indicators were even worse, and in 1991 even parliament matured. (Rather, it matured back in December 1990, when N. Naumov, deputy chairman of the VOIR Central Council, cited the approval of the Union patent law by the Politburo as the main argument for passing it at the IV Congress...) It turned out to be a simple task to deceive the union deputies: Precisely these figures, i.e., the results of its sabotage, were palmed off on them. The deception was facilitated by their incompetence on matters of invention and patent law.

Regardless of the warning of competent deputies (Viltsans, Leskin, Novikov, and others) that the union draft took in entirely only the minuses of the institution of authorship certificates and allowed the center to continue extorting the inventions of poor authors from the republics, the parliament, having passed the law, made its contribution to the centrifugal aspirations of the latter, which were completed half a year after the collapse of the USSR. In other words, it committed hara kiri. The same fate awaits Russia, if its parliament (unfortunately, not strongly distinct from the Union parliament in the above parameters) does not investigate the situation in time, if its "reform government" and president do not quickly investigate the cadre question in its own team.

That is why, having touched on the specific question of the Rospatent leadership, the article being reviewed hit the nail on the head, so to speak. It cites specific examples of implementation by the "reform government" of a policy which sets its truest and most selfless supporters, the inventors, against it. And these are hundreds and thousands of the most active members of society.

In conclusion, allow me to cite two other examples along this line. Margaret Thatcher's advice is well known: Do not rush privatization, rush to create private owners. So, my fairly well-developed proposal to declare Russian inventions, protected by USSR authorship certificates, to be property of Russia and rapidly to privatize these inventions—by transferring them to the authors' ownership, or in a regime of exclusive right to the invention (patent), or in a regime of limited right of disposal (the destatification of authorship certificates)—has been bogged down in the government since last autumn.

The second example is an even more glaring fact of illegality on the part of the new Rospatent leadership. Despite the fact that patents on inventions have been issued in our country for almost 70 years and that according to Russian legislation on inventions existing to this day (for instance, see RSFSR Civil Code, Article 520) authors have the right to receive patents on their inventions, the government has ceased to issue them as of the end of last year. As a result, up to hundreds of thousands of affirmative decisions on claims have accumulated in the VNIIGPE (Institute for Patent Expert Analysis). People have stopped submitting claims. Foreign companies and governments are dismayed: Is it worth doing business with a state in which any clerk who gets into a leading government post can illegally not fulfill the requirements of law, can set conditions for the issue of patents... "you just pass the draft law, in which I am an author, and then I will issue a protective document."

By not taking the cadre question seriously, the "reform government" has already pressed the knife, placed against its stomach. It is too bad for the good guys in this government. It is too bad for Russia.

## Abalkin Defends Academy Record in Social Sciences

*927A0265A Moscow POISK in Russian No 29 (167), 11-17 Jul 92 p 4*

[Article by Academician Leonid Abalkin under the rubric "Point of View": "Academician Leonid Abalkin: 'Protect the Scientist From the Crowd!'"]

[Text] One of the signs of the times, in which we live, is the persecution of the social sciences. This is not at all by chance. In life everything is interconnected, and the malicious attacks on humanities knowledge are merely a component of the destruction of our history and the next campaign in search of "enemies of the people."

Aggressive incompetence, which is so typical of rallies and many mass media, has also migrated in recent times to the respectable meetings of the Russian Academy of Sciences. The range of vision of the philistine has become decisive when settling many questions that concern both the social sciences and sciences that are very far from it.

This appeared most disgracefully and scandalously during the last election of full members of the RAS [Russian Academy of Sciences]. Moreover, for the section of the social, first of all economic, sciences the unjustified "failures" of well-known scientists have occurred in the third election in a row. As a result the most prominent specialists in the country in national economic forecasting and regional economics, in international relations and political science, a world-recognized investigator of the problems of inflation and money circulation, and an honorary member of the Italian Academy of Sciences and Arts were not elected to the academy.

As is easy to establish even in case of a cursory analysis of the results of the vote, in a number of cases not the scientific services of the scientist, but his nationality was the decisive argument.

The reproaches, which are being hurled at the social sciences, are by no means of a professional nature. It is possible to make them even without having read a single serious work (which happens in reality) in the given field. They put in an impossible position and made a fool of the people, they did not produce anything, they have been discredited—such is a typical set of appraisals.

Here such a number of myths and primitive notions have accumulated that it is very difficult to understand them. But sooner or later we will all the same have to deal with this. In the interests of the truth, in the interests of science, in the interests, in the end, of the public good.

I will try to examine the main things that characterize the confusion of concepts and the lack of understanding of the essence of the matter.

The first is the mistaken confusion of the social sciences and official ideology. However, never and nowhere, including in our history, did they coincide.

It is another matter that many serious scientists were forced to remain silent or to set forth their views in private, "official" memoranda, which were unknown to the public, and to change the type of research, switching to more inoffensive spheres (world history, logic, econometric methods). The field of humanities research shrank, but the pulse of scientific thought did not stop.

If we talk about time-serving scientists, in any system the ruling structure will always find a sufficient number of people with high degrees and titles, who are willing to justify and "substantiate" the policy being pursued. We have to talk about this with deep regret, but such is reality.

A special section of the problem is the teaching of the social sciences. Simplified to the point of primitivism and strictly regulated, it played no small role in the firm establishment of many current stereotypes of mass consciousness, vulgar notions, and naive ideals. But what bearing does what was said have on Science besides the fact that the named figures of education received increments for academic degrees and titles?

The second is the lack of understanding of the unique nature of the object that is studied by the social sciences. Eternal and immutable laws do not exist here. Society not only surpasses by several factors of 10 other objects of research in its complexity and multidimensional nature, but is also in the process of constant development and renewal.

The conclusions and evaluations, which are obtained during a sociological analysis, by their nature are of a dynamic, historically variable character. What was correct at one time can prove today to be incorrect. And vice versa. And it is a matter here not just of the depth of knowledge (this occurs in all sciences), but first of all of the qualitative change of the very object being studied.

Many people still remember the reproaches meant for prominent thinkers of the 18th century that they did not understand the revolutionary role of the proletariat. Today these reproaches cannot cause anything except regret and a bitter smile. But is it really more fair, for example, to accuse Marxism of failing to understand the role of the scientific and technical revolution and its influence on the radical change of the social structure of society?

Real trouble for science begins wherever and whenever its conclusions are declared irreproachable and their transformation into dogmas, into a symbol of faith occurs. Here the end of science is approaching. It gives up its place to social religion, or, if you wish, ideology.

It is important both for the people, who have decided to devote their life to the social sciences, and for the people, who undertake to evaluate them by criteria, which are

characteristic of a completely different class of scientific disciplines, to understand the unique nature of the social sciences. Whoever has not understood this unique nature is doomed to superficiality and dilettantism.

Precisely the profound qualitative changes, which have occurred in the world during the last half century, require drastic progress in the area of the social sciences and the elaboration of a new theoretical paradigm. Many leading scientists both in our country and in the world scientific community understand this.

The third is the lack of knowledge of the real history of the social scientists. Such a lack of knowledge is excusable for laymen, but it is intolerable for judges, for the people who undertake to evaluate their quest, their successes and miscalculations.

This history knows much. In it there were dogmatism and doctrinarianism, obsequious apologetics and persecutions for dissidence. Mediocrity, the narrowness of thinking, and the loss of conscientiousness and objectivity are now still making themselves felt. But there was also a creative, constructive element in it. At times we do not notice or do not want to notice it. And if it is true that no prophet is accepted in his own country, this applies first of all to us.

Historians and philosophers, lawyers and literary scholars could name quite a number of names of scientists who constituted the glory and pride of domestic science. I will recall merely as an example the original concept of historical progress, which was developed by A. Gumilev, the brilliant works of A. Manfred, the works of D. Likhachev.

I want to dwell in greater detail on the history of economic science. First a small piece of information. Representatives of political economy appeared within the Russian Academy of Sciences by no means during the post-October period. The first full member of the Russian, at that time the Imperial, Academy of Sciences in the specialty "political economy and statistics" was Andrey Shtorkh, who was elected to this position in 1804. Later K. Veselovskiy, V. Bezobrazov, I. Yanzhul, and P. Struve, as well as other prominent domestic scientists joined him—in the same specialty.

The 1920's gave Russia a number of brilliant names. Among them are N. Kondratyev—the author of the theory of "major cycles"; A. Chayanov—a specialist in agrarian issues, who is recognized in world science; A. Bogdanov—the founder of "tectology," who anticipated many ideas of cybernetics; the most prominent specialists in matters of the organization of labor and production—A. Gastev and P. Kerzhentsev.

Fate ruined their outstanding talent early, and it is possible only to infer what fruits they would have yielded under different social conditions. When N. Kondratyev—by that time an honorary member of the London Economics Society and the London Statistical Society and a number of American academies and associations—was arrested, he had not turned 40. But even while in Butyrki Prison, and then at the Suzdal Special Prison for Political Detainees, he continued his scientific research.

Economists were the first victims of ideological monopolism. The conference of Marxist Agrarians, which gave the signal to start the rout of economic science, took place almost 20 years before the well-known session of the All-Union Academy of Agricultural Sciences imeni V.I. Lenin.

In the early 1940's M. Kubanin was subjected to repression for the publication of an article that revealed the superiority of the United States in labor productivity in agriculture. The journal PROBLEMY EKONOMIKI was closed down. On 20 June 1941 the article "On the Faulty Book and Liberal Reviewers" appeared in PRAVDA. The punishing sword was raised over the Institute of Economics, but, apparently, at that time they had no time for this....

The 1930's through the 1950's were gloomy, hard times, which continued until the first thaw. But at that time scientific research was also not interrupted. The historian of science cannot ignore the in-depth studies of the problems of reproduction in the works of A. Notkin and Ya. Kvasha, the works of V. Venzher and V. Nemchinov, and the scientific activity of Ye. Varga.

Then, in the 1960's, a breakthrough along the entire front of economic science began. The works of L. Kantorovich and V. Novozhilov received world recognition. The intensive elaboration of means of the liberalization of the economic system and the formation of a market economy, which is connected with the names of Ye. Liberman, A. Birman, and many other domestic scientists, was begun. The question of the lifting of the "iron curtain" and of the integration of the Soviet economic system in the world economy, to which A. Arzumanyan and N. Inozemtsev actively contributed, was raised more and more insistently.

Precisely at that time and, moreover, precisely within the social sciences the scientific foundations of current views were laid. To some people they may seem to be natural or even to have been formulated by their own mental comprehension. To think this way is the height of naivete. We are all children of our times, the product of many influences. And there would not be perestroyka or radical reform without the creative breakthrough that prepared the ideological ground for them.

At any rate the ideas of the 70-year history of the social sciences as continuous wandering in darkness, as an indivisible, whole process are nothing more than a myth. A myth that is based on ignorance of the actual path traversed by science.

Finally, the fourth is the lack of understanding of the complex, contradictory interaction of science and politics. The scientist in principle cannot be responsible for

political decisions and their consequences. He cannot, because politics has its own "rules of the game": the following up on campaign promises, the art of social compromises, the comparison of alternatives and the selection of one of them.

Science can be responsible only for the quality and conscientiousness of its recommendations. And it is not its fault if these recommendations are rejected, if arbitrary rule and voluntarism flourish in politics. Render unto God, as they say, the things that are God's, and unto Caesar the things that are Caesar's.

The misfortune of our society—both in the past and today—consists in the arrogant contempt for the conclusions and recommendations of economic science. And until we change our attitude toward it, there will be no change for the better. It would seem that we are being spoken about in the Book of Wisdom of Jesus, Son of Sirach, "of two things my heart mourned..., if a warrior suffers from poverty, and wise men are scorned."

Today the leaders of the Russian Academy of Sciences, guided, probably, by the best motives, are trying to correct the situation in the social sciences by purely administrative reorganization. This will not lead to anything good. It is necessary, at last, to understand that science happens not at rallies and not by means of all kinds of reorganizations, but in the quiet of laboratories, during deep meditations and tormenting doubts, as a result of the accumulation and interpretation of facts.

In much the same way as the first precept of a physician is "do not harm," in the social sciences the main thing is not to interfere. Give them an opportunity to develop quietly and freely. Protect them from the arbitrary rule of power and the tramp of the indignant crowd. This is the best thing that the leadership of the academy can do.

I will say even more: I see in this the duty of the scientific community. Persecutions of science never go off without leaving a trace. Having begun in one place, they affect all its fields. And the people, who are long-suffering as it is, in the end will also have to pay for everything.

And another thing. In the modern world the growing humanization of science is a global trend of its development. This process for the present has affected to a very small degree domestic science, in which technocratic views prevail.

Such a situation is seriously curbing scientific research. And it would be useful to make this problem—the problem of the humanization of the natural and technical sciences—a subject of close attention and discussion of the academic community.

## 'POISK' Science News Briefs 4-10 July 1992

*927A0264A Moscow POISK in Russian No 28 (166), 4-10 Jul 92 p 2*

[Article]

[Text] **Figure**

The education of one student in Russia now costs 140,000 rubles.

**Quotation**

"To be surpassed scientifically is not only of common fate, but also our common goal. We cannot work without cherishing the hope that other will go farther than us."

Max Weber, German scientist

**Fact**

The presidents of the RAS [Russian Academy of Sciences] and the Academy of Sciences of Ukraine signed an agreement on cooperation between the two academies.

- **These days a delegation of the Academy of Social Sciences of China, which Prof. Jiang Liu, its vice president, is heading, is in Russia.** The goal of the visit is to become acquainted with how the changeover to a market economy, the process of privatization, and the liberalization of prices are proceeding in our country. The prospects of the CIS worry the Chinese, the views of our scientists on Russian-Chinese relations interest them. The "landing force" of social scientists is regarded as one of the stages of the preparation for the visit of B. Yeltsin to China.

The guests met with Academicians S. Shatalin, O. Bogomolov, and G. Osipov. Meetings with former Soviet executives: A. Yakovlev and Ye. Ligachev, are also planned. In the cultural program there is a visit to the mausoleum and the apartment museum of V. Lenin in Gorki.

- **The Council of the RAS for Export Control is being organized under the presidium of the RAS. The presidium has approved the Statute on the council.** It will be a scientific consultative body which defends the interests of the Russian Federation when carrying out foreign economic activity at scientific institutions and organizations of the RAS.

The council will have to compile a list of priority directions of open research and development of institutes and scientists of the RAS, in which it is planned to carry out export control. Another task of the council is the examination of priorities, which have not been included on the list, and the preparation of proposals on partnership with the United States in its system of export controls and on the involvement in similar activity of member countries of the Coordinating Committee on Export Controls.

Academician G. Mesyats was approved as council chairman.

- **A field meeting of the collegium of the Ministry of Science, the Higher School, and Technical Policy of Russia on the theme "The Scientific and Technical Principles in the Formulation and Implementation of**

**Pilot Projects of Flexible Manufacturing Plants and Systems in Various Sectors of Industry" was held at the Krasnyy proletariy Plant.** This theme is a key one in the state scientific and technical program "Technologies, Machines, and Works of the Future."

The projects, which have been included in the program, set as a goal the establishment of science-intensive works in the most different sectors—machine building, agricultural production, and light industry.

Krasnyy proletariy also became one of the first plants, at which the implementation of the program was begun. Now about 200 organizations and enterprises of Russia, including higher educational institutions, scientific research institutes of the RAS, sectorial institutes, and western firms, are participating in the implementation of the state program.

The collegium considered it necessary to envisage when allocating budget assets outlays on the assurance of independent examination both at the stage of the selection of projects and at individual stages of its implementation.

- **A meeting of the Russian-Korean Committee for Scientific and Technical Cooperation was held in Moscow.** The results of the first year of the implementation of the bilateral program, within which Russia and Korea are establishing direct ties between institutes, enterprises, private firms, and companies, were summarized. The extensive exchange of scientists and specialists was begun, work was launched on joint projects. It was deemed expedient to single out for priority support 19 projects that are most ready for practical implementation. Their goal is the development of competitive products.
- **In accordance with a decision of the presidium of the Russian Academy of Sciences the Scientific Research Center of the Thermal Physics of Pulse Inputs (NITs TIV), which was granted the status of an independent scientific research institute of the RAS, was established within the scientific association of the Institute of High Temperatures of the Russian Academy of Sciences.**

The center has advanced experimental plants and stands, which make it possible to conduct a wide range of research in the area of the physics of extremely high pressures and temperatures and the effect of high-power energy flows on materials.

State Prize winner Academician V. Fortov was approved as director of the NITs TIV.

- **The Ministry of Education of Russia and the Ministry of Education and Sports of the Baden-Wurttemberg Federal Land (Germany) carried out the joint action "Assistance to Teachers of Russia From Teachers of Baden-Wurttemberg."** Two hundred eighty Germany instructors participated in it. An airplane with 40 tons of humanitarian aid was sent from the FRG.

During the trip of the Wurttembergers along the Volga seminars were conducted with the participation of instructors of German from Volgograd, Saratov, Ulyanovsk, and Kazan.

- **On the M. Keldysh, P. Lebedev, Ye. Pavlovskiy, S. Makarov, I. Mechnikov, and K. Tsiolkovskiy gold medals of the RAS the inscription "the USSR Academy of Sciences" will now be replaced by the inscription "the Russian Academy of Sciences."**

**The Forecasts Will Be Terrible**

It is planned to establish in Minsk the International Center of Genetic Forecasting. A scientific base already exists—the laboratory of molecular genetics of the Institute of Life of the Academy of Sciences of Byelarus. The recent research work, which was conducted by its associates in rayons with a high level of contamination with radionuclides, corresponds to the world level and confirms the findings about the effect of radiation of the genetic code, which have been accumulated over the last 30 years.

**Stanislav Fioletov—From Tashkent:**

**Where Will the Blow Be Struck?**

The general atlas of major earthquakes of Central Asia and Kazakhstan, which was compiled by scientists of the Institute of Seismology of the Academy of Sciences of Uzbekistan, may suggest an answer.

"Regular seismic observations have been conducted here since 1902," Doctor of Physical Mathematical Sciences Muzaffar Bakiyev, deputy director of the institute, relates. "As to more remote times, ancient manuscripts became here the main sources of information."

The atlas, in addition to being of purely scientific importance, is also of applied importance. By means of it, for example, it is possible to track not only the periodicity of powerful earthquakes at one place or another, but also the "migration" of foci. All this is important for builders and designers.

The work was performed in collaboration with colleagues from other republics of Central Asia and Kazakhstan. Before the collapse of the USSR its results accumulated at the Institute of Earth Physics of the USSR Academy of Sciences and were used for compiling a unified atlas of major earthquakes. The Union does not exist, but the ties of scientists have been maintained.

**Raisa Chirva—From Kiev:**

**Freely Convertible Information**

Ukrainian scientists have established another academy of sciences—the Academy of Computer Sciences and Systems. One of the problems, the solution of which scientists from academic and sectorial institutes and higher educational institutions are prepared today to undertake, is the establishment of a unified information

network of Ukraine on the basis of advanced communications and telecommunications equipment. On this level the new academic Institute of Problems of the Recording of Information is ready to publicize several sensations. All this "underlines" "The Law on Information," which was recently passed by the Supreme Soviet of Ukraine.

## 'POISK' Science New Briefs 11-17 July 1992

*927A0264B Moscow POISK in Russian No 29 (167), 11-17 Jul 92 p 2*

[Article]

[Text] **Zenit Wants To Go Into the Sky**

The elaboration of a project of the peaceful use of Zenit launch vehicles has been started by scientists of the Academy of Sciences of Ukraine and engineers of the Yuzhniy Plant (Dnepropetrovsk), where this high-power equipment is produced.

The reorientation of the launch vehicles, as the authors believe, is possible, but who will be the client? It is entirely possible that the French Republic will be one of the first. French Minister of Industry and Trade Dominique Tros-Kahn, who visited Ukraine, stated this.

**Profitable Dumps**

The list of organizations, which want to protect the environment, has been supplemented by another one: The Ukrainian Ecological Fund has been established.

From where are assets to come? Aleksandr Esaulov, general director of the UEF [Ukrainian Ecological Fund], is optimistic: The main item of revenues is ecological business. What does this mean? The processing of the abundant "mineral resources" of dumps, the development of waste-free technological cycles and cleaning lines. A new system of fines for pollution is being put into effect precisely now, and clients for these products, in the conviction of Esaulov, will be found.

**Figure**

It is planned to establish in the United States by the year 2010, 1,000 private educational institutions, at which 2 million people will study. The implementation of this project will be an attempt at the reform of the educational system.

**Quotation**

"There is no national science, just as there is no national multiplication table."

A. Chekhov

**Fact**

V. Shorin, chairman of the Committee for Science and Public Education of the Supreme Soviet of the Russian Federation, has taken charge of the recently established working group which will deal with the preparation of the law on the RAS [Russian Academy of Sciences] (on the basis of the draft that was submitted by the academy).

- **Chairman of the Moscow City Soviet H. Gonchar addressed to R. Khasbulatov a letter, in which he calls upon the parliament to exempt students of secondary and higher educational institutions from the payment of income taxes on all types of earnings.** The letter was sent on the personal initiative of N. Gonchar.
- **The Scientific Publishing Council of the RAS and the Nauka All-Russian Association of Publishing, Printing, and Book Trade Enterprises will have to revise the plans of the publication of literature on the humanities and social sciences.** First of all "the most topical and basic works" will now be published. Such is one of the provisions of the recently adopted decree "On the State and the Prospects of Development of the Humanities and Social Sciences."

It was suggested to scientific research institutions to use more extensively "small forms of publishing activity." While it was recommended to scientists of the academy to speak regularly on radio and television, "promoting the achievements of science and firmly establishing moral norms and values."

- **The presidium of the RAS relieved Vice President of the RAS Academician V. Kudryavtsev of the duties of academician secretary of the Philosophy, Sociology, and Law Department at his personal request.** Academician B. Topornin was appointed temporary acting academician secretary of the department. All the rights of a member of the presidium of the RAS have been extended to him.
- **An international space exhibition is being held in Israel.** It was organized on the threshold of the flight of an Israeli cosmonaut on our spacecraft.

The RAS displayed its own exhibits—mockups and prototypes of space hardware—in the section "Russian Space."

- **The 1992 L. Spendiarov International Geological Prize of the Russian Academy of Sciences was awarded to Japanese scientist Prof. Akiho Miyashiro—for research in the field of the petrology of metamorphic and magmatic rocks, mineralogy, X-ray crystallography, the thermodynamics and tectonics of mid-ocean ranges, island arcs, and metamorphic zones.**

The honorary diploma of the prize winner will be presented to the Japanese scientist at the 29th session of the International Geological Congress in August in Kyoto (Japan).

The amount of the prize is $1,000. As was stated in the decree of the presidium of the RAS, the National Committee of Geologists of Russia has available and will pay the winner this sum with its subsequent reimbursement by the Russian Academy of Sciences.

- **The Committee for the Higher School of the RF [Russian Federation] Ministry of Science, the Higher School, and Technical Policy sent to higher educational institutions a supplemental letter to the Statute on Admission."** In it, in particular, it is stated that the winners of all-Union and all-Russian contests, as well as the tournament of young physicists can in accordance with the decision of the admissions commission enroll in higher educational institutions without entrance examinations.

To the inquiries of higher educational institutions about the determination of the citizenship of school graduates the committee responds: "The admission commissions of higher educational institutions should be guided by Article 13 (Point 1) of the Law on Citizenship of the RSFSR, according to which 'there are recognized as citizens of the RSFSR all citizens of the former USSR, who permanently reside on the territory of the RSFSR on the day this Law takes effect'—6 February 1992."

- **At the regular meeting of the collegium of the RF Ministry of Science, the Higher School, and Technical Policy the state scientific and technical program "Advanced Technologies of the Comprehensive Development of Fuel and Energy Resources of Russia" ("Mineral Resources of Russia") was discussed.**

The backwardness of technologies and ecological problems are the main obstacles in the implementation of the program. At the same time, as was noted at the meeting of the collegium, an enormous scientific potential remains unclaimed. The collegium decided to announce the open competition of scientific and technical projects in the basic directions of the program. The list of planned projects should also be made more precise and be submitted for approval to the Mintopenergo.

- **The Chastnoye obrazovaniye firm jointly with the Krasnodar Experimental Center of the Development of Education conducted the 10-day school and seminar "How To Organize a Private School."** Organizers of nonstate educational institutions from the former republics of the USSR took part in it.

**The contact telephone number is: 499-52-95.**

- **The 33d International Mathematics Contest of School Children has opened in a festive manner in the Izmaylovo Movie and Concert Hall.** For the first time Russia became the site of its holding. Four hundred young participants from 68 countries of the world will compete in two rounds, working on the most complex problems. The prizes will be presented to the winners on 20 July.

**The contact telephone number of the contest is: 166-40-51.**

## 'POISK' Science News Briefs 27 June-3 July 1992

*927A0253C Moscow POISK in Russian No 27 (165), 27 Jun-3 Jul 92 p 2*

[Article]

[Text] **Figure**

One hundred thousand rubles [R]—that will be the maximum cost of instruction at Moscow State University for students who enrolled there privately.

**Quotation**

"Compulsory training, about which the states of the world, which have been able to impose it on young people, boast, is a means of suppressing the freedom and natural abilities of man.... Society should provide education of all types and give its citizens the opportunity to choose such a type that corresponds more to their nature."

Muammar al-Qadhafi, Libyan leader

**Fact**

Russian Minister of Education E. Dneprov was elected a full member of the Russian Academy of Sciences and a member of its presidium.

- **At the regular meeting of the presidium of the RAS [the Russian Academy of Sciences] the question of reorganizing publishing at the RAS was discussed.**

V. Vasilyev, general director of the Nauka All-Russian Association of Publishing, Printing, and Book Trade Enterprises, reported that the association is on the verge of bankruptcy. A subsidy of R220 million (disregarding the increase of prices) will be required just for covering the losses from publishing activity this year. The debts of the association now already exceed R50 million.

The Commission for the Reorganization of Publishing at the RAS came to the conclusion that it is advisable to establish the Nauka International Academic Publishing Company in the form of a limited-liability company and with the use of a specific share of the fixed capital of the Nauka All-Russian Association. For this it is necessary to attract a foreign partner and investor.

According to the version of the commission, the RAS should have a controlling interest (not less than 51 percent of the authorized capital stock) in the company being established. The proposed partner is the General Media Corporation and the publishing house Pleiades Publishing Inc., which has been founded by it.

- **A conference of the committee of authorized representatives of the governments of the member states of the Joint Institute for Nuclear Research was held in Dubna.** B. Saltykov chaired the meeting. A report on the work of the board of directors of the institute during the first half of 1992 was heard. The thematic

problem plan of scientific research and international cooperation in 1992 was approved. The conference participants approved the financial protocol and adopted a new charter of the institute. Uzbekistan became the 18th member of the Joint Institute for Nuclear Research.

The election of the director of the institute was held. Of the seven candidates Corresponding Member of the RAS Vladimir Kadyshevskiy, director of the laboratory of theoretical physics of the Joint Institute, received the maximum number of votes. He was elected for a term of five years. V. Kadyshevskiy replaced Hungarian D. Kis in the position of director.

- **The Association of Pedagogical Higher Educational Institutions of the Russian Federation (Rospedvuz) has been established.** This is a voluntary association of pedagogical institutions, leasing and joint-stock enterprises, public organizations, and private individuals. The sharing of advanced developments and technical achievements, the giving of legal assistance to the member higher educational institutions, the establishment of a fund of financial assets and resources for the implementation of educational innovation projects and programs, and the formulation of programs, textbooks, and handbooks are among its tasks. The Association of Pedagogical Higher Educational Institutions of the Russian Federation will conduct commercial activity, will develop international contacts, will hold competitions for the best theoretical scientific developments, and will establish its own stipends.

- **The activity of the Interbranch State Association for the Production and Processing of Rice—the RIS MGO—was examined at the field meeting of the collegium of the Ministry of Science, the Higher School, and Technical Policy of Russia with the participation of the Ministry of Agriculture of Russia and the Russian Academy of Agricultural Sciences in Krasnodar.**

The RIS MGO was formed in 1990 and includes 15 different organizations, among which is the All-Russian Scientific Research Institute of Rice.

The collegium resolved to take additional steps on the acceleration of scientific research and the assimilation by production of new ecologically safe technologies of the cultivation of rice, the development of high-grade foodstuffs, and the involvement in the implementation of the project of the scientific potential of higher educational institutions and organizations, which do not belong to the RIS MGO. It was decided jointly with the Ministry of Agriculture and the Russian Academy of Agricultural Sciences to use the scientific production know-how of the RIS MGO as a testing area for the development of a market mechanism of interaction among the structures of the agroindustrial complex of Russia.

- **The academywide basic research program "The Revival and Modernization of Russia" will be implemented at the RAS during 1992-1996.** The goal of the program is the formulation of a concept of the development of the Russian state and society during the transition period and the determination of the place of Russia in the world community.

The program envisages the analytical study of the complex constitutional law, socioeconomic, political, interethnic, and spiritual problems of modern society. It will be oriented toward helping organs of state power and government in the search for scientifically sound means of solving the problems facing the Russian Federation.

Humanities and social science institutes of the Russian Academy of Sciences, other scientific research institutes, higher educational institutions, as well as representatives of the natural and technical sciences will take part in the formulation of the program.

- **At a meeting of the academic council of the history and philosophy faculty of the Russian State Humanities University the concept of Higher Women's Courses, which was formulated by G. Belaya, dean of the faculty, was discussed.** It is proposed to establish at the Russian State Humanities University a new higher women's educational institution after the patter of the Bestuzhev Women's Courses.

### Does Allah Like the Trio?

As of 1 July the average monthly wage of scientists, teachers, and instructors of higher educational institutions in Uzbekistan were increased by 1.8-fold. The stipends of undergraduates of higher educational institutions, graduate students, doctoral students... increased by 1.5-fold. The ukase of President of Uzbekistan Islam Karimov on this was published the other day in the local press. Other steps for protecting the population against the next spiral of inflation and increase of prices are also envisaged by it.

This ukase is the third such one this year. As a result the average monthly wage of a teacher has increased as compared with December of last year from R460 to R2,900. As representatives of local financial organs assert, this is 1.6-fold higher than on the average for the other regions of the CIS. The student stipend will now come to R675 as against R450 in June. Here the 50-percent discounts at student dining rooms and snack bars have been retained.

### A Deposit on a Hair

The human hair, much like a magnetic tape, records geological information. Scientists of the Institute of Nuclear Physics of the Academy of Sciences of Uzbekistan drew such a conclusion as a result of their research. In each sample of hairs they succeeded in identifying up to 70 different elements that are characteristic of the habitat of one person or another. Apparently, it will now be possible to compile a geological map of the region without leaving the barber shop.

## 'POISK' Science News Briefs 20-26 June 92

*927A0253B Moscow POISK in Russian No 26 (164), 20-26 Jun 92 p 2*

[Article]

[Text] **Figure**

More than 20 kindergartens during the last year were equipped with IBM-compatible computers. The "Computer and Childhood" (KID) Association is carrying out the action.

**Quotation**

"One hour of use of a computer program corresponds to 200 hours of work of an instructor under traditional conditions."

D. Block, 25th president of Harvard University

**Fact**

The Ministry of Education of Russia has rejected cooperation with the IBM Corporation in connection with the fact that, in the opinion of experts of the ministry, the prices for the computer classrooms, which were purchased for schools, were inflated by the corporation by nearly twofold.

- **The Supreme Soviet of Russia passed the Patent Law.** The work on it continued for a year and a half. The authors of the draft succeeded in defending their concept in the fight with supporters of "The Law on Inventions," for which socialist notions of property were made the basis.

"The Patent Law establishes in the country the institution of intellectual property and affords the possibility of the market evaluation of creative achievements," said Yuriy Ryzhov, chairman of the subcommittee for science and new technologies of the Supreme Soviet. "The passage of the law is a huge contribution to the building of a rule of law state in Russia."

Now the president of Russia should approve the document.

- Taking into consideration the recommendations of the decree of the Ministry of Science, the Higher School, and Technical Policy of 25 May, "On the Wage of Personnel of Higher Educational Institutions," the Ministry of Education of Russia established as of 1 May 1992 for rectors of higher educational institutions, which are subordinate to the ministry, a wage in the amount of 7,900 rubles a month.

- **The presidium of the RAS [the Russian Academy of Sciences] resolved "to transfer to the regional departments, the regional centers, as well as the scientific centers of the RAS, institutes, institutions, and organizations of the RAS the right to make decisions on the carrying out of the privatization of the available housing that is on their balance sheet."** The preparation and carrying out of "the privatization (free transfer) of the available housing, which is on the balance sheet of the housing and municipal service administration," have been assigned to the Administration of Affairs of the RAS. The monitoring of its implementation has been assigned to RAS Administrator of Affairs V. Volkov.

This decision was made on the basis of the RSFSR Law "On the Privatization of Available Housing in the RSFSR" and the decree of the same name of the Supreme Soviet of the Russian Federation, as well as to execute the ukase of the president "On the Organization of the Russian Academy of Sciences," which defines the status of the Academy of Sciences as a self-administered organization.

- **A conference devoted to the problems of protecting software and databases was held in Vienna. Yu. Ryzhov, chairman of the subcommittee for science and new technologies of the Supreme Soviet of the Russian Federation, met with European and American specialists in this area.** The experience of foreign specialists, perhaps, will be used by our legislators in the preparation of a copyright, the draft of which has already been drawn up. Particular attention will be devoted to the protection of programs and databases, since their use, in contrast to many other objects of the copyright, yields a substantial profit.

- **The Ministry of Education of Russia notified the rectors of pedagogical higher educational institutions that they can admit to entrance examinations school graduates, in whose school-leaving certificate there are no grades in several subjects.** "On the territory of the Russia Federation there are secondary general educational institutions," it is stated in the instructions of the ministry, "lyceums, gymnasiums, and colleges, which implement a nonstandard set of educational subjects or integrated courses. We order such documents on education to be considered valid without their additional confirmation by the Ministry of Education."

- **The presidium of the RAS commissioned the Lithosphere Institute of the RAS jointly with interested commercial structures to set up a joint-stock company for the purpose of "the performance of the functions of the client of a ship for deep-sea exploratory drilling in the ocean during the period of its building and for the carrying out of subsequent operation of the ship."** At the same time as this the institute should "draft, coordinate, and submit for approval to the presidium of the RAS a conceptual plan of the development of exploratory drilling."

- An appeal of Russian historians to their Yugoslav colleagues, in which the accedence of Russia to the sanctions against "fraternal Serbia and Herzegovina" is called "a tragic mistake, which can only aggravate the situation in the Balkans and bring new sufferings to millions of simple people," was published in the newspaper PRAVDA.

Among the signers of the appeal are Academicians of the RAS P. Volobuyev and Yu. Pisarev and Corresponding Member of the RAS V. Kumanev.

- **The action of youth organizations "We Want To Be Heard!" is being carried out from 21 to 28 June in Moscow.** Its main organizer is the Russian Union of Young People. The goal of the action is "to make known the claims of young people against the government and to demonstrate the capacity for resolute actions." Contact telephone number: 206-80-24.
- **On 1 September a new subject will be introduced at schools: "The Fundamentals of Economic Knowledge."** True, with a stipulation: for the present only where there are teachers who are capable of conducting such a course. For the quickest training of such teachers the journal EKONOMICHESKAYA SHKOLA has already published a set of handbooks and methodological instructions.
- **The Committee for the Higher School of the Ministry of Science, the Higher School, and Technical Policy of Russia jointly with the International Labor Organization is inviting persons interested to take part in the international seminar "The Management of Human Resources Under the Conditions of a Social-Oriented Market Economy."**

The seminar is being organized for the purpose of "the successful mastering of advanced European methods of the management of human resources" and is regarded "as the first step toward the development of a system of the training of personnel in social management."

Telephone numbers for inquiries: 954-33-42, 236-54-49.

## 'POISK' Science News Briefs 13-19 June 92

*927A0253A Moscow POISK in Russian No 25 (163), 13-19 Jun 92 p 2*

[Article]

[Text] **Figure**

One thousand three hundred fifty rubles [R]—such is now the minimum wage of a junior scientific associate at institutions of the Russian Academy of Sciences.

**Quotation**

"If a professor feels inclined to join in the struggle of world outlooks and party convictions, he can do this outside the lecture hall, on the stage of life, wherever he likes. But it would be too convenient to demonstrate one's inclination where those present—including, perhaps, dissidents—are forced to keep quiet."

Max Weber, *Science as a Vocation and Occupation*

**Fact**

The Ministry of Education of Russia sent to the government of the Russian Federation the draft of "The Statute on Nonstate Educational Institutions."

- **The presidium of the RAS [the Russian Academy of Sciences] endorsed as a whole the draft of the Law of the Russian Federation "On the Russian Academy of Sciences."** The draft of the law was sent by way of legislative initiative to the Supreme Soviet.

This law "defines the legal status of the Russian Academy of Sciences and regulates the relations of the Russian Academy of Sciences with state bodies, the principles of the use of state resources for the conducting of basic scientific research, and the organizational bases of the interaction of the Russian Academy of Sciences with other scientific institutions of the Russian Federation and other states."

According to the draft law, the RAS is defined as "the highest scientific institution of Russia" and as "an all-Russian self-administered organization that is financed from the state budget."

- **POISK has already reported that in conformity with the Ukase of the President of the Russian Federation "On the Increase of the Rates and Salaries of Personnel of Budget-Carried Institutions and Organizations During the Second Quarter of 1992" the amounts of the salaries for people, who hold the highest posts in the system of the RAS, have been increased.**

New salaries have also been established for scientific associates of scientific research institutions of the RAS. Thus, the wage of a junior scientific associate will now come to R1,350-2,500, while that of a director of an institute will come to R4,800-6,000. Moreover, it was decided to review the salaries and wage rates of engineering and technical personnel, workers, and employees of auxiliary scientific subdivisions. Here the minimum amounts of the salaries and wage rates of these categories of personnel as of 1 May should be increased by 1.8-fold and should come to not less than R900 a month.

- **The scientific council for problems of the world ocean has been organized under the presidium of the RAS.** It is, as is stated in the statute on the council, "a scientific consultative body that promotes the development of basic and applied research of the world ocean." Leading scientists of Russia in the field of oceanology and related disciplines and representatives of ministries, departments, and organizations, which conduct oceanological research, are members of it.
- For the purpose of "the further development of basic research in the area of the history of science and technology, the science of science, and the social problems of scientific activity, taking into account the broad nature of scientific research work," the presidium of the RAS resolved to remove the Institute of the History of Natural Science and Technology imeni S.I. Vavilov and the scientific commissions, committees, and editorial boards of publications, which operate on its basis, from the structure of the Philosophy, Sociology, and Law

Department of the RAS and to consider the institute to be under the presidium of the Russian Academy of Sciences.

- **The Russian Academy of Sciences announced competitions for gold medals and prizes named after prominent scientists in 1993.**

The goal of the competitions is "the giving of incentives to scientists for outstanding scientific works, scientific discoveries, and inventions, which are of great importance for science and practice." In all 10 gold medals (the period for the submission of works is from 8 November 1992 to 27 September 1993) and 22 prizes in the amount of R5,000 each (the period for the submission of works is from 10 November 1992 to 22 September 1993) are being awarded.

Telephone inquiries: 237-70-50, 237-99-65.

- **The council of the Nauka Interrepublic Physical Culture and Sports Club made an appeal to the presidents of the academies of sciences of the sovereign republics and the chairmen of the departments and scientific centers of the RAS.**

The reason for the appeal is the crisis processes in the physical culture movement, the discontinuation of the financing of physical cultural health improvement work, and the elimination of sports clubs and councils for physical culture.

The appeal contains the call "to display at this difficult time attention to the needs of physical culture, to display resolve and to defend in deed the priority of physical culture and sports in the prevention of diseases and in the formation of a healthy way of life of staff members of scientific institutions and organizations."

- **The All-Russian Conference of Rectors of Pedagogical Higher Educational Institutions has begun in Golitsyn (Moscow Oblast).** More than 100 representatives of higher educational institutions and members of the Committee for the Higher School of the Ministry of Science, the Higher School, and Technical Policy and the Committee for Science and Public Education of the Supreme Soviet of Russia are participating in it. Among the questions, which have been submitted for discussion by the rectors, are the decree of the government of Russia "On Measures on the Reform and Development of the System of Pedagogical Education in Russia," the charter of the Russian Association of Pedagogical Higher Educational Institutions, and the discussion of proposals on the changeover to the multilevel training of specialists with a higher pedagogical education. The draft of the law "On Higher Education," which was prepared by the Ministry of Education of Russia, will be discussed separately.
- **The number of nonstate educational institutions is increasing rapidly.** In the collegium of the Ministry of Education of the Russian Federation it was indicated that during the last year the "increase" has been as follows: 31 nonstate educational institutions in Moscow, nine in St. Petersburg, eight in Yekaterinburg, seven in Moscow Oblast, and seven in Volgograd Oblast. In accordance with the decision of the collegium an information bank of these educational institutions should be established by 1 July.
- **The Ministry of Education of Russia together with the Center of Medical Social Adaptation and the French association "The Contact of Parents and Children" conducted a joint seminar in Moscow.**

The association deals with the problems of separated families (in particular, those in which parents are serving a prison term) and families in which there are disabled children. Possible forms of giving assistance to such families were discussed at the seminar. Minister of Education of Russia E. Dneprov, who addressed the seminar, told the French guests about the program of assistance to disabled children and to refugee children from "hot spots," which has been formulated by the ministry. Both will have, in particular, special privileges when enrolling in higher educational institutions, he said.

**Raisa Chirva, our correspondent for Ukraine, reports from Kiev:**

### Harness, Lads, the Liner!

President of Ukraine Leonid Kravchuk promulgated an ukase on the establishment of the Ukrainian National Space Agency and a few days later visited the Kiev Scientific and Technological Aviation Company. The scientists and engineers told the president that they are preparing for the production of several new types of cargo and passenger aircraft. The specialists of the space sphere are also not falling behind in their promises: Orders for "extraterrestrial" technologies continue to arrive.

### A New Interpol?

Yuriy Tunitsa and Mikhail Kostitskiy, professors of Lvov University, together with Anatoliy Oleynik, first secretary of the permanent representation of Ukraine to the United Nations, formulated the project of the establishment of a world ecological federation. The idea "was tested out" at several international meetings and representatives of the United States, Germany, France, Japan, and many other countries liked it. The authors of the project see a structure resembling the UN Security Council with its own detachments of international ecological police.

### Farewell, Weapons!

The Scientific and Technological Center of Conversion has been established in Ukraine with the participation of the Academy of Sciences. The goal is to find jobs for the specialists who previously developed weapons of mass destruction. Now scientists and process engineers with the help of the newborn center should rather quickly reorient themselves toward the development of peacetime products. It appears that the strikes, about which defense workers spoke for such a long time, are not foreseen.

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